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The Oil and Gas Journal

PRODUCING · REFINING · ENGINEERING · MARKETING

PUBLISHED EVERY THURSDAY · TULSA, OKLAHOMA, DEC. 19 [illegible] · $3.00 A YEAR

THE

NATIONAL SUPPLY

COMPANIES

EXTEND TO THE INDUSTRY

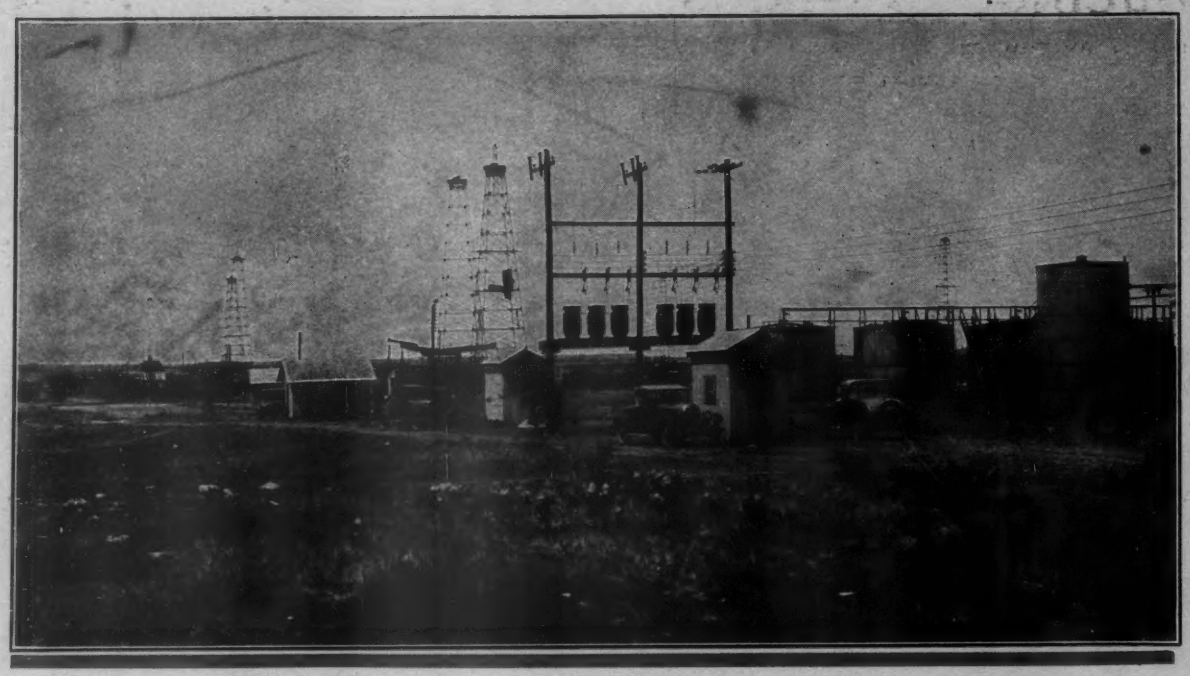
A CORDIAL WISH FOR A

MERRY CHRISTMAS AND

PROSPEROUS NEW

YEAR

NSCO
TRADE MARK



THE MODERN TREND IN THE PETROLEUM INDUSTRY IS TO PURCHASED ELECTRIC POWER

ELECTRIC POWER *for* OIL WELL PUMPING

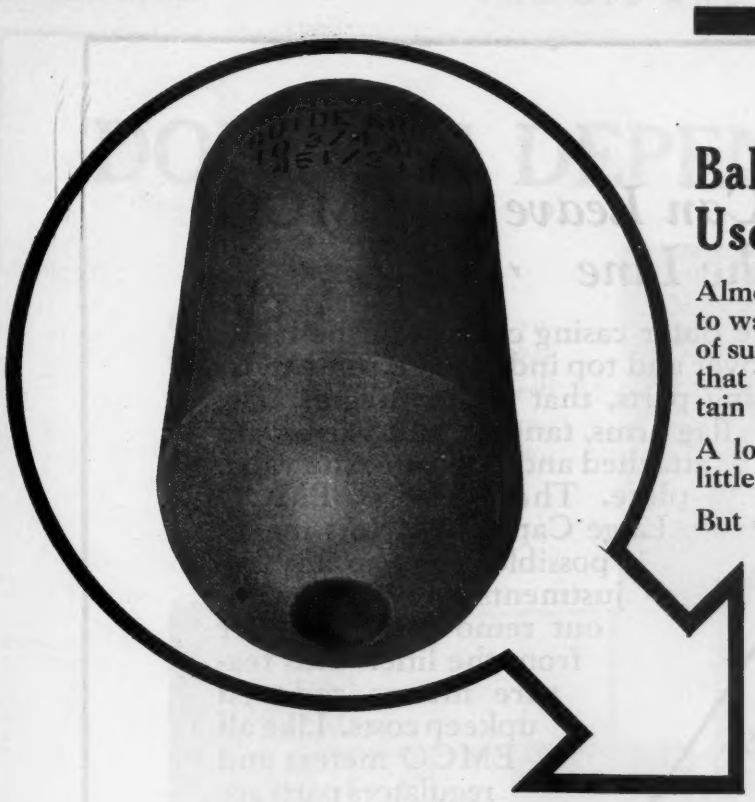
Means:

---Increased Production
---Less Labor
---Less Maintenance
---Fewer Operating Difficulties
---Greater Over All Economy!

TEXAS POWER & LIGHT CO.

Headquarters: Interurban Building, Dallas

Providing for the Texas of Today---
Planning for the Texas of Tomorrow



Baker Cement Equipment's World-Wide Use Proves Its Superiority . . . . . .

Almost any item of oil well equipment which has sufficient merit to warrant its manufacture and sale can achieve a certain degree of success locally. In every sales manual you'll find the statement that "if you call on enough people every day you will make a certain number of sales—the percentage will take care of you."

A local success, then, may mean much—or it may mean very little.

But a world-wide demand—that's different. That offers ample proof of the superiority of the article being demanded, else there would be no demand from every quarter of the globe. Baker Cement Equipment has demonstrated its pronounced superiority.

Baker Cement Guide Casing Shoe

The Baker Cement Guide Casing Shoe gives an outstanding superiority in performance and a basic simplicity in construction which are, in themselves, a guarantee of absolute reliability.

A Baker-Formula Concrete Guide is cast and anchored in rounded grooves in a standard Plain Casing Shoe, 16 inches in length, and a strong washdown action is secured through the 2½-inch hole.

The Baker-Formula Concrete used in all Baker Cement Equipment has a compressive strength of 6002 pounds to the square inch, and it will not fracture or shatter while guiding a long string of casing down the well. Neither impact nor pressure will be too great for this special laboratory concrete, found only in Baker Cement Equipment. When we state that the strength of ordinary good concrete is only 2800 to 3700 pounds to the square inch, you will be the better able to appreciate the Baker Safety Factor in Baker-Formula Concrete.

Baker Cement Line Is Complete

The Baker Cement Floating, Guiding, and Cement Equipment line is complete, and includes the following items:

Baker-Burch Cement Float Shoe
Baker-Burch Side Hole Cement Float Shoe
Baker-Burch HIGH Side Hole Cement Float Shoe
Baker Cement Float Collar
Baker Cement Baffle Collar, with Hole
Baker Cement Solid Baffle Collar
Baker Cement Guide Casing Shoe
Baker Cement Bull Plug Casing Shoe

Baker Cement Equipment is the only equipment of its kind and is covered by Patents Granted and Patents Pending. There is only one way to be sure that you are getting a maximum degree of protection and safety for your investment in casing, equipment, etc.—specify Baker Cement Equipment and be sure that you get it.

WRITE FOR LITERATURE: *— For the sake of efficiency, economy, and safety, you should have an accurate and complete knowledge of Baker Cement Floating, Guiding, and Cementing Equipment. Complete descriptive literature will be sent on request. WHY NOT ASK FOR IT NOW?*

Detailed Information Will Be Mailed on Request

Mid-Continent Branches
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California Branches
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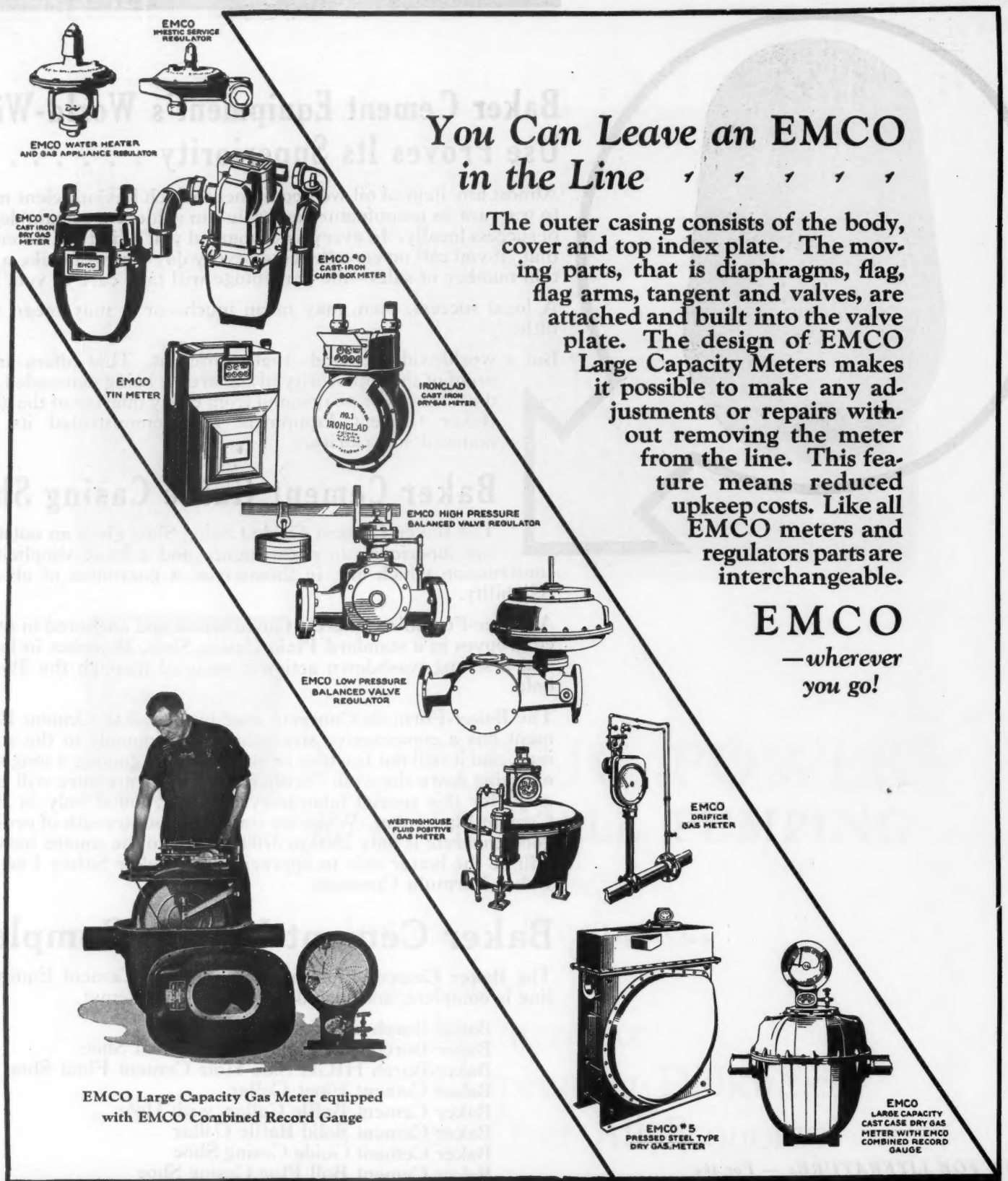
Mid-Continent Distributors
B. & A. SPECIALTY CO.
220 E. Brady St., Tulsa, Okla.
2301 Commerce St., Houston, Tex.

Don't Use Cast-Iron Equipment — Cement is Stronger and Better

The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription price $6.00 a year; 15 cents a copy. Entered as second-class mail matter December 15, 1911, at the post office at Tulsa, Okla., under the Act of March 3, 1879.


EMCO
DOMESTIC SERVICE REGULATOR
EMCO WATER HEATER AND GAS APPLIANCE REGULATOR
EMCO "O" CAST IRON DRY GAS METER
EMCO
EMCO "O" CAST-IRON CURB BOX METER
EMCO TIN METER
IRONCLAD CAST IRON DRY-GAS METER
EMCO HIGH PRESSURE BALANCED VALVE REGULATOR
EMCO LOW PRESSURE BALANCED VALVE REGULATOR
WESTINGHOUSE FLUID POSITIVE GAS METER
EMCO ORIFICE GAS METER
EMCO #5 PRESSED STEEL TYPE DRY GAS METER
EMCO LARGE CAPACITY CAST CASE DRY GAS METER WITH EMCO COMBINED RECORD GAUGE

EMCO Large Capacity Gas Meter equipped with EMCO Combined Record Gauge

You Can Leave an EMCO *in the Line*

The outer casing consists of the body, cover and top index plate. The moving parts, that is diaphragms, flag, flag arms, tangent and valves, are attached and built into the valve plate. The design of EMCO Large Capacity Meters makes it possible to make any adjustments or repairs without removing the meter from the line. This feature means reduced upkeep costs. Like all EMCO meters and regulators parts are interchangeable.

EMCO
—wherever you go!

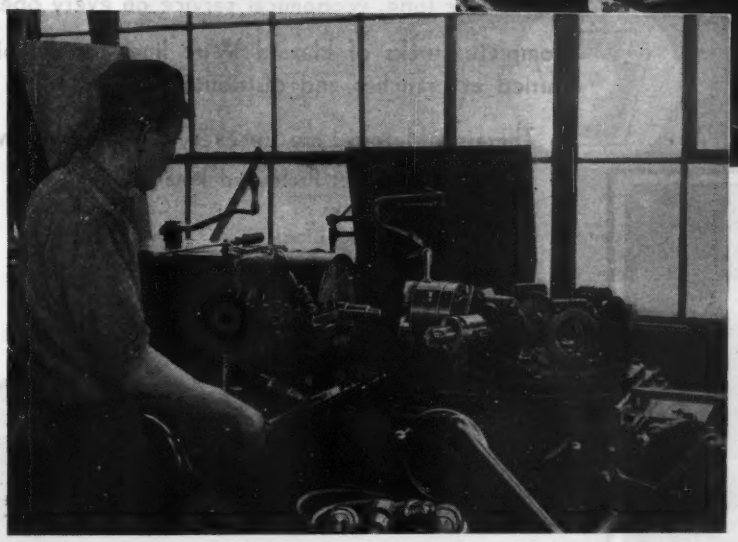
PITTSBURGH EQUITABLE METER COMPANY

MAIN OFFICE AND WORKS PITTSBURGH, PA.

NEW YORK CHICAGO COLUMBIA, S.C. LOS ANGELES DALLAS
TULSA SEATTLE KANSAS CITY SALT LAKE CITY

DOLLARS DEPEND ON THREADS

Core drills, casing shoes, rotary drill couplings, sucker rods, casing, tubing and drill pipe — a thousand and one other parts — threaded to the highest degree of accuracy.



The successful manufacturer of Oil Field equipment must produce highly finished, accurately cut threads. The majority use Land-Matic Heads and Victor Taps.

To provide for easy replacement of worn parts and to permit of a breaking down into smaller units for easy transportation, a surprising amount of Oil Field Equipment is threaded.

Threads must be strong to withstand the heavy strain placed on them. They must be accurate to insure a proper fit and interchangeability. They must be highly finished to enable an easy engagement and to permit of repeated use.

A majority of the successful manufacturers of Oil Field equipment use LAND-MATIC heads, VICTOR Taps, or other Landis threading tools to produce threads to these requirements.

The high production and low maintenance cost of Landis threading equipment make possible the manufacture of threaded parts at a greater profit.

Catalogue No. 30—Landis Threading Die Heads and Victor Taps.
Catalogue No. 31—Landis Pipe Threading Machinery.
Catalogue No. 32—Landis Threading Machinery.

LANDIS TRADE MARK

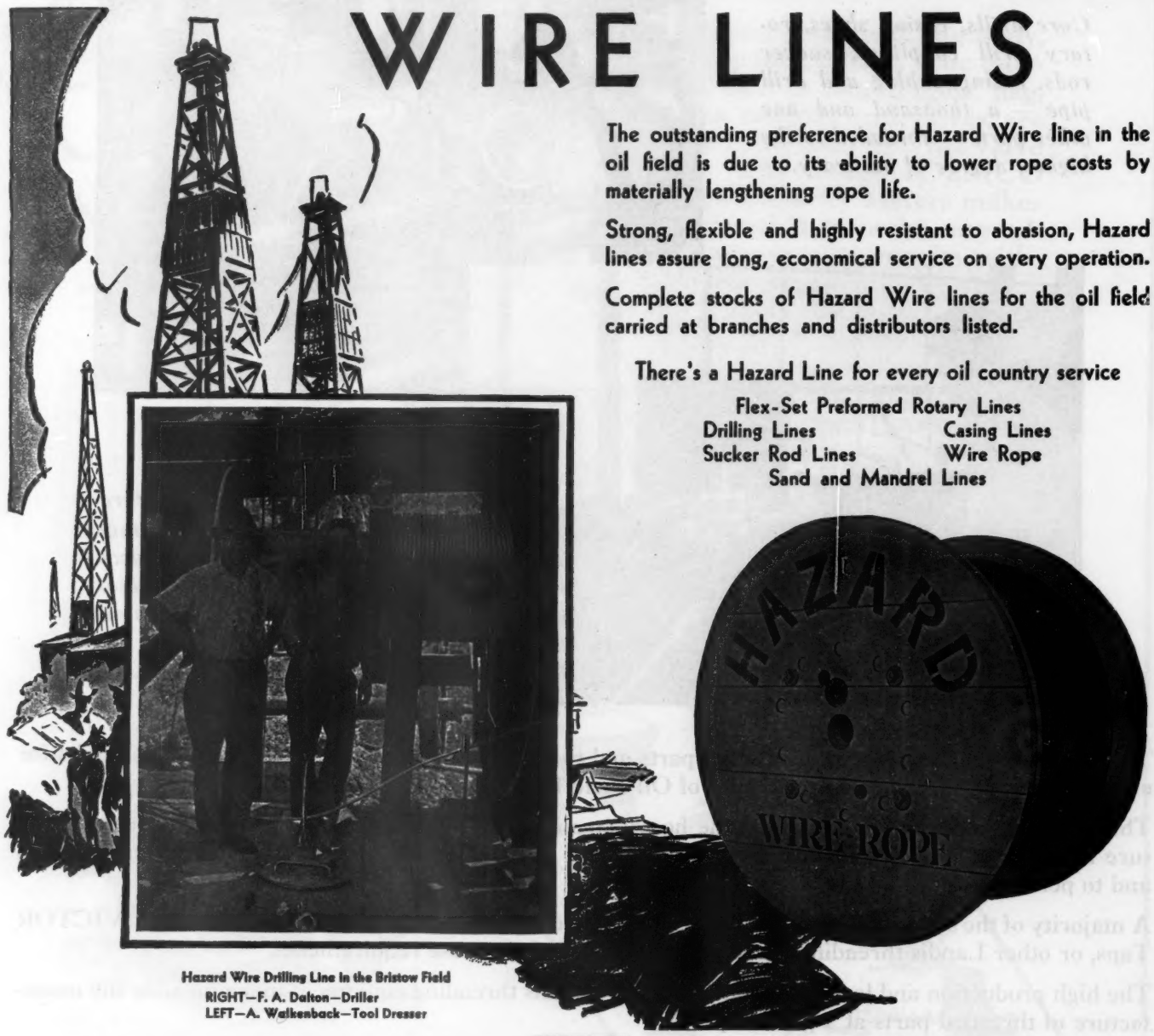
LANDIS MACHINE CO., Inc., WAYNESBORO, PENNA., U. S. A.

Detroit Office—5928 Second Blvd.
Cleveland Office—504-505 Marshall Bldg.

REPRESENTED IN THE DOMESTIC OIL FIELDS BY: Colcord-Wright Machinery & Supply Co., St. Louis, Mo.; D. S. Mair Machinery Co., Houston, Tex.; Woodward, Wight & Co., New Orleans, La.; Herberts Machinery & Supply Co., Los Angeles, Calif.; Herberts Moore Machinery Co., San Francisco, Calif.; Hendrie & Bolthoff Mfg. & Supply Co., Denver, Colo.

HAZARD

WIRE LINES



Hazard Wire Drilling Line in the Bristow Field
RIGHT—F. A. Dalton—Driller
LEFT—A. Walkenback—Tool Dresser

The outstanding preference for Hazard Wire line in the oil field is due to its ability to lower rope costs by materially lengthening rope life.

Strong, flexible and highly resistant to abrasion, Hazard lines assure long, economical service on every operation.

Complete stocks of Hazard Wire lines for the oil field carried at branches and distributors listed.

There's a Hazard Line for every oil country service

Flex-Set Preformed Rotary Lines
Drilling Lines — Casing Lines
Sucker Rod Lines — Wire Rope
Sand and Mandrel Lines

HAZARD WIRE ROPE COMPANY
WILKES-BARRE PENNSYLVANIA

1625 South Troost Avenue, TULSA, OKLA.

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HOUSTON OIL FIELD MATERIAL CO., Inc.
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UNITED OIL WELL & SUPPLY CO.
Los Angeles, Cal.

Piping for all Gas and Oil Lines

Smoothing the way for MAINTENANCE

Smooth, flawless walls, free from pits and welded seams, make Pittsburgh Seamless Pipe and Tubing permanently resistant to scale and corrosion and pave the way for continuously free flow in the line. The tough grain structure of the forge-textured steel in Pittsburgh Seamless also assures a high pressure capacity that cuts down the number of pumping stations required. Pittsburgh Seamless is a dependable ally to uninterrupted service and a big factor in the reduction of maintenance costs.

Pittsburgh Steel Products Co.

DIVISION OF
Pittsburgh Steel Co.

Largest Manufacturers of Seamless Steel Pipe and Tubing exclusively

PITTSBURGH NEW YORK ST. LOUIS CHICAGO DETROIT TULSA HOUSTON

Pittsburgh Seamless

DRILL PIPE CASING OIL WELL TUBING LINE PIPE STILL TUBES

2921

OIL MEN!

meet the Teredo

"This, gentlemen, is the work of the teredo, sometimes called the ship-worm. Salt-water locations are infested with it. It drills untreated wood to useless honey-combs within a few months, making quick replacements necessary, completely destroying all salvage value.

"There is a way to fight the teredo. See that all your piling and timber is protected with toxic creosote oil. When properly injected, this protects it in teredo infested salt-water, and also protects it against termites and fungi in other locations."

The photograph shows the terrific damage the teredo can do in short time. The same thing will happen to your timber if you do not guard against it.

Protection is easily secured by the use of "Black Beauty" products. You will thus guard against every danger—against teredo, termite, and the insidious decay of fungus growth.

Send your blue-prints and specifications to the Petroleum Department of the Texas Creosoting Company.

Your material will be prepared in advance and kept until you need it. Then it will be shipped to you immediately. Don't throw your timber to the teredo. Give it a chance!

"BLACK BEAUTY" Products

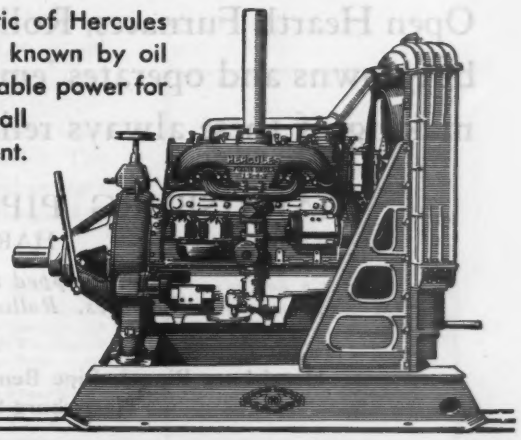
TEXAS CREOSOTING COMPANY

ORANGE, TEXAS HOUSTON, TEXAS

Drills Fifty Wells in Three Years With Perfect Record of Performance

With three years of hard, steady service to its credit and a perfect record of performance, a Hercules Power Unit owned by the Fahy & Haskell Drilling Company is in constant use at Lefors, Texas. In operation on a Keystone portable rig, it has already drilled more than 50 water wells — quickly and economically.

This record of performance is but characteristic of Hercules reliability and efficiency. Hercules Engines are known by oil field operators everywhere as the most dependable power for standard, rotary or portable drilling rigs—and for all other types of heavy-duty oil-producing equipment.



HERCULES MOTORS CORPORATION
Canton, Ohio, U. S. A.

WEST COAST BRANCH: LOS ANGELES, CAL.
MID-CONTINENT BRANCH: TULSA, OKLA.

Hercules Power Units and parts are also carried by the Norvell-Wilder Hardware & Supply Company of Houston, Texas; Beaumont, Texas; Fort Worth, Texas and Shreveport, Louisiana

HERCULES ENGINES

"Don't Argue With Me About Couplings"

I've tried 'em all and it's "Harrisburg for mine" right now and all the time. Threads are absolutely accurate—and always have been. And you can bet your last dollar on their strength, uniformity and dependability.

Open Hearth Furnaces, Rolling Mills and Forge Shops—Harrisburg owns and operates 'em all, controlling every process in the making of these always reliable, always dependable couplings.

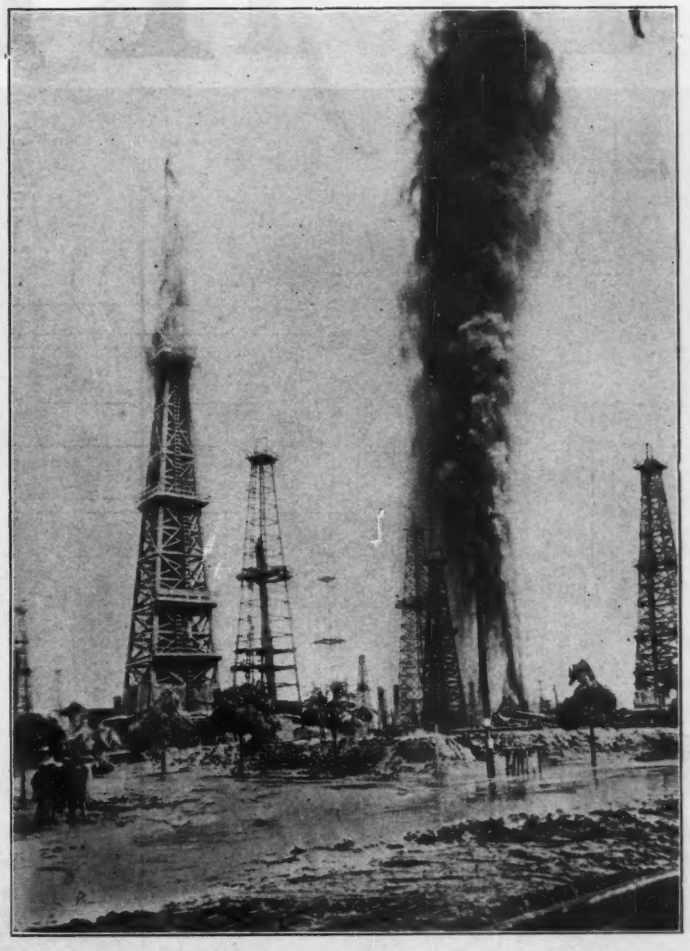
HARRISBURG PIPE & PIPE BENDING CO.
HARRISBURG, PA.

Fully Equipped with Our Own Open Hearth Furnaces, Rolling Mills and Forge Shops

Distributors
Harrisburg Pipe & Pipe Bending Co. of Texas, Inc., Houston, Texas.
Harrisburg Supply Co., Tulsa, Okla.

HARRISBURG

Forged Seamless Steel Couplings



The Accepted Standard... Red-Lead Paint for Steel

FOR more than 100 years, pure red-lead has demonstrated its high efficiency as a protective paint for metal. It is the universal standard . . . the preferred paint for rust-proofing iron and steel.

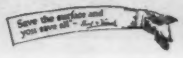
A century of constant use has shown that pure red-lead paint gives a tough, rust-preventing film that is unexcelled in protective value—unsurpassed in length of life.

Fine, uniform, highly oxidized . . . there is no better red-lead obtainable than Dutch Boy red-lead. It comes in two forms—paste and liquid. The liquid (ready for the brush) is supplied in six colors—natural orange-red, light and dark brown, light and dark green, and black. The paste comes in natural orange-red and can be shaded to dark colors.

NATIONAL LEAD COMPANY

New York, 111 Broadway ✓ Buffalo, 116 Oak Street Chicago, 900 West 18th Street ✓ Cincinnati, 659 Freeman Avenue ✓ Cleveland, 820 West Superior Avenue ✓ St. Louis, 722 Chestnut Street ✓ San Francisco, 235 Montgomery Street ✓ Boston, National - Boston Lead Co., 800 Albany Street ✓ Pittsburgh, National Lead & Oil Co. of Pa., 316 Fourth Avenue ✓ Philadelphia, John T. Lewis & Bros. Co., Widener Building.

LITHARGE of correct physical character and extreme chemical purity is a necessity in oil-refining. Such litharge is made by us. You can always rely on its unvarying uniformity. Our nearest warehouse can give you quick shipment.

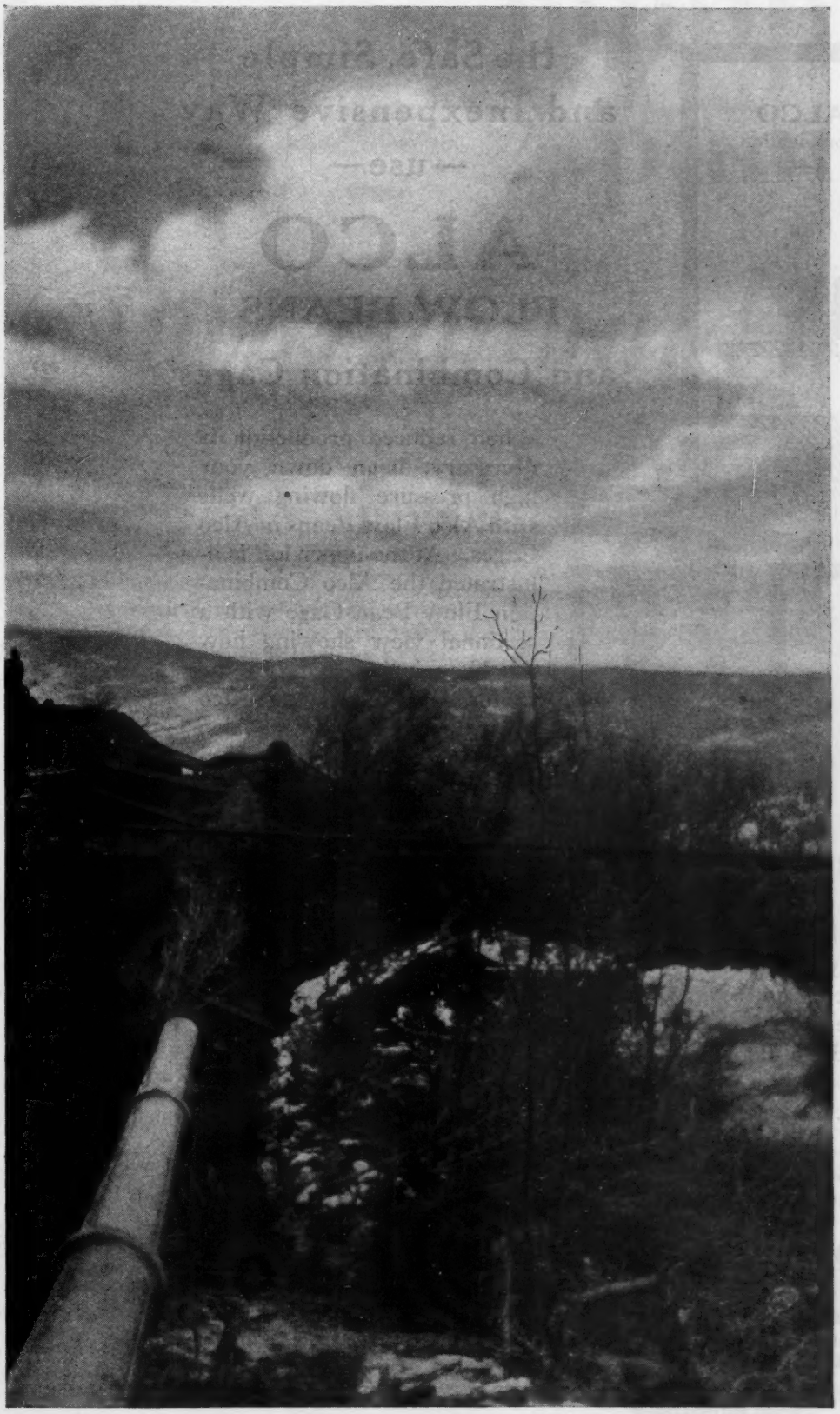
DUTCH BOY 

RED-LEAD

The

SMITH*WELDED*

Year of 1929



now drawing to a close has witnessed the greatest expansion of the natural gas industry in the history of this country. To this expansion, the A. O. Smith Corporation has contributed in no small degree—

First—by making SMITH-Welded Gas Line Pipe available in increasing quantities—now, 25 miles per day, projects have been made into earning properties sooner.

Second—by making the construction of all-welded lines simpler and surer with the SMITHWeld Bell and Spigot and SMITHWeld Steel Expansion-Bending Joints.

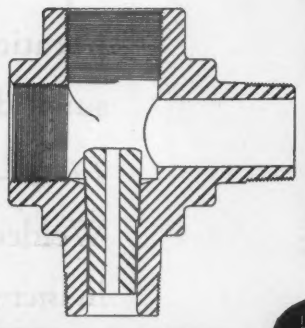
Third—by establishing new standards for roundness and straightness, that made all pipe line construction faster and less expensive.

A. O. SMITH CORPORATION
OIL AND GAS FIELDS PRODUCTS DIVISION
General Offices: Milwaukee, Wisconsin
District Offices: New York · Tulsa · Los Angeles · Houston

GAS LINE PIPE

Control Production

ALCO
Combination
Cage



Sectional View
Showing Flow
Bean in Place

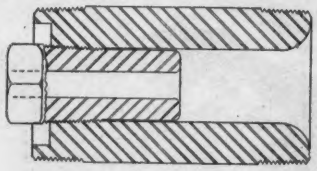
ALCO
FLOW BEANS

ALCO
FLOW BEAN

the Safe, Simple and Inexpensive Way —use—

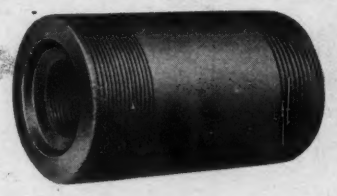
ALCO FLOW BEANS and Combination Cages

When reduced production is necessary, bean down your high pressure flowing wells with Alco Flow Beans in Alco Cages. At the upper left is illustrated the Alco Combination Flow Bean Cage with a sectional view showing how the bean is inserted. In the center is pictured the Alco Flow Bean and below the Alco Plain Cage for use with Alco Four Way Tees or steel or ordinary tees.



Sectional View— Flow Bean in Cage

ALCO Plain Flow Bean Cage



ALCO

10,000-lb. Forged Steel Fittings

. . . . crosses, tees, ells, bull plugs, nipples, swage nipples and hydraulic fittings, as well as the flow beans and cages illustrated here, are bored, machined and threaded on the lathe from solid forgings of the highest quality steel. Alco 10,000-lb. Forged Steel Fittings have ample reserve strength to meet any emergency due to sudden increases in pressure.

ALCO OIL TOOL CO., Inc.

P. O. Box "A," Compton, Calif.
Taft—Ventura—Kettleman Hills
Houston, TEXAS — Oklahoma City, OKLAHOMA

Pumping... ...pumping ...pumping

twice around the clock

WHY is an oil plant like the Graf Zeppelin? Because its engines have to keep pumping, pumping, pumping 24 hours a day.

Leave it to the Graf Zeppelin to minimize risk. Leave it to the "Zep" to find the most dependable ignition system. And leave it to the oil companies to do the same!

For the Graf Zeppelin, like many of the large important oil companies is equipped with Robert Bosch Super-Energy Magnetos—10 of them.

If you would take the trouble to compare the Super-Energy Magneto side by side with any other, you would quickly see why. For example, expose it to water or dust and dirt and it works merrily on, because it is dust-proof and waterproof. Even after many months of 24 hour a day service in an oil plant it will be doing its job as efficiently as the day it was installed.

Demand from it extra power—and it responds by generating the Super-Energy for which it is named.

For the giant gas engine of 1000 B. H. P. . . . for the smaller higher speed stationary engines of 15 B.H.P. . . . for other small engines down to the smallest single cylinder engine there is a suitable type of Super-Energy Magneto, just as there is for trucks, tractors, stationary, and airplane marine engines of all descriptions. Write for a copy of "Ignition Briefly Described." containing ignition information which you will find interesting because it tells the story of ignition in a simple, fascinating way; useful because it will help you in your own engine problems.

ROBERT BOSCH MAGNETO CO., INC.
3601E Queens Blvd., Long Island City, New York, N. Y.

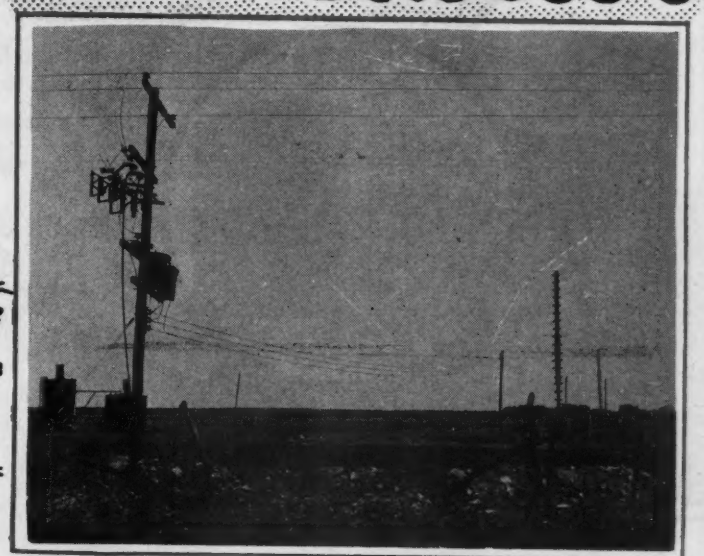
All Robert Bosch Super-Energy Magnetos bear the full name "Robert Bosch" and this trademark: . . . . . .

Robert Bosch
Super-Energy
Magneto

METRIC METAL WORKS of American Meter Co., Inc.

SERVING WEST TEXAS

drilling an entire lease with minimum equipment by ELECTRICITY



four wells were drilled by electricity from this one transformer installation

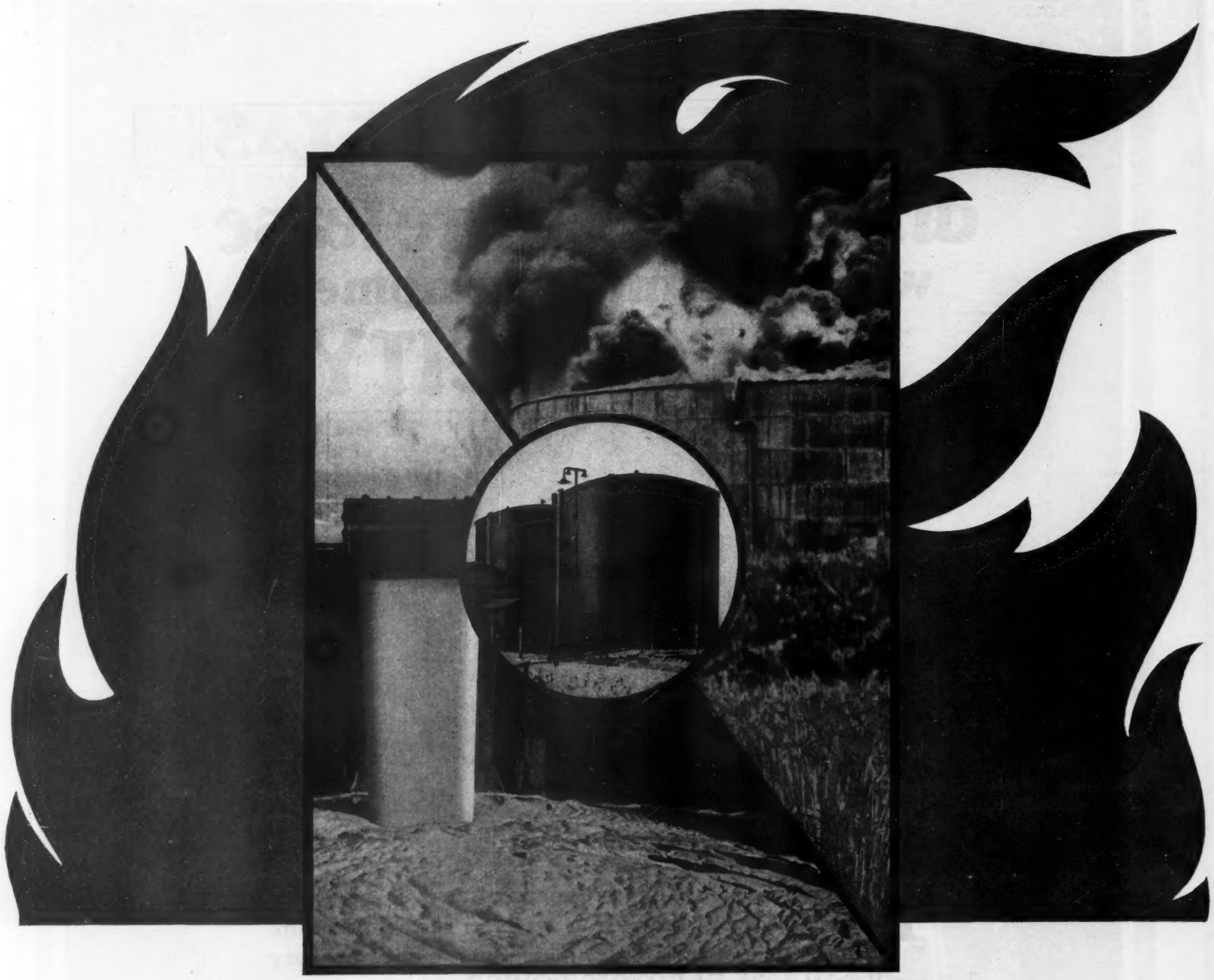
TAPPING our highlines at one corner of his lease, this oil operator put down four wells in record-breaking time; with surprisingly little equipment; at very small cost—with ELECTRIC POWER.

Both rotary and cable tools cut down through all kinds of formations with less strain and breakage, under the steady even whirr of ELECTRIC POWER.

If your lease is within reasonable distance of our power lines, let our Engineers show you how inexpensively you can convert your equipment to ELECTRIC POWER.

WEST TEXAS UTILITIES COMPANY
In the Land of Opportunity
General Offices Abilene, Texas

KILL FIRE WHILE IT IS YOUNG



Back of this unfailing system— 5 specialized engineering groups

Where the FOAMITE Two-Solution System has been designed, installed and maintained by American-LaFrance and Foamite Engineers, *it has never failed to extinguish a tank fire.*

The *combined* work of five specialized engineering groups makes this scientific certainty of the FOAMITE System possible.

Designing engineers for the proper proportioning of the System.

Installation engineers for supervising correct installation.

Inspection engineers assuring correct maintenance.

Chemical engineers for the periodic analysis of chemical solutions.

Development engineers for keeping the System abreast of the latest discoveries in FOAMITE Protection.

"Home-made" systems *may* put the fire out. But is the chance worth taking? Failure in a crisis often means terrific loss.

A representative, located near you, will be glad to survey your fire hazards and make recommendations for protection. American-LaFrance and Foamite Corporation, Engineers and Manufacturers, Dept. F35, Elmira, N. Y.

AMERICAN-LAFRANCE AND FOAMITE PROTECTION

A Complete Engineering Service

For Extinguishing Fires

That's asbestos armor!

...corrosion's enemy

Showing the easy application of Carey Asbestos Pipe Line Felt with hot asphalt. A speed of a mile per gang daily is not unusual with this stay-put method of application.

THE pipe line that's shielded with Carey Asbestos Pipe Line Felt is safe for a long, long time against moisture and chemical-laden soils. Tough, rock-hard asbestos armor—economical—easy to apply, hot or cold, and it *stays put*, permanently.

Wrap those pipe lines with Carey Asbestos Pipe Line Felt —bury them, forget them.

Special Industries Department
THE PHILIP CAREY COMPANY, *Lockland*, Cincinnati, Ohio
R. B. HALL, Special Mid-Continent Representative

417 Magnolia Building, Dallas, Texas
605 Mayo Building, Tulsa, Okla.
107 Buffalo Street, Houston, Texas
847 Rutherford Street, Shreveport, La.

Carey
ASBESTOS PIPE LINE FELT

ACME TICO

Roller-Bearing Steam Engines 2 and 4 Cycle Gas Engines

. . . in every field

TITUSVILLE OIL COUNTRY MACHINERY BUILT WITH RESERVE RUGGEDNESS

At Caldwell . . Wichita and Esperson Dome

YOU'LL find a noteworthy preference for TITUSVILLE Engines wherever you find oil field derricks. With either engine the flexibility of speed control and easy starting make their users enthusiastic. The field records prove the economy of their operation. And both are alike in having the full enclosed oil and dirt tight crankcase and flood lubrication.

Make your next engine purchase a TITUSVILLE Engine—then you too will be able to appreciate the many real reasons for such a widespread preference, among oil men for either the ACME (steam) or TICO (gas) Engines.

THE TITUSVILLE IRON WORKS COMPANY

Division of Struthers Wells-Titusville Corporation

TITUSVILLE, PA.

Mid-Continent Office
503 Exchange National Bank Building
Tulsa, Okla.

For California
California Machinery Supply Co.
2449-55 Hunter Street, Los Angeles, Calif.

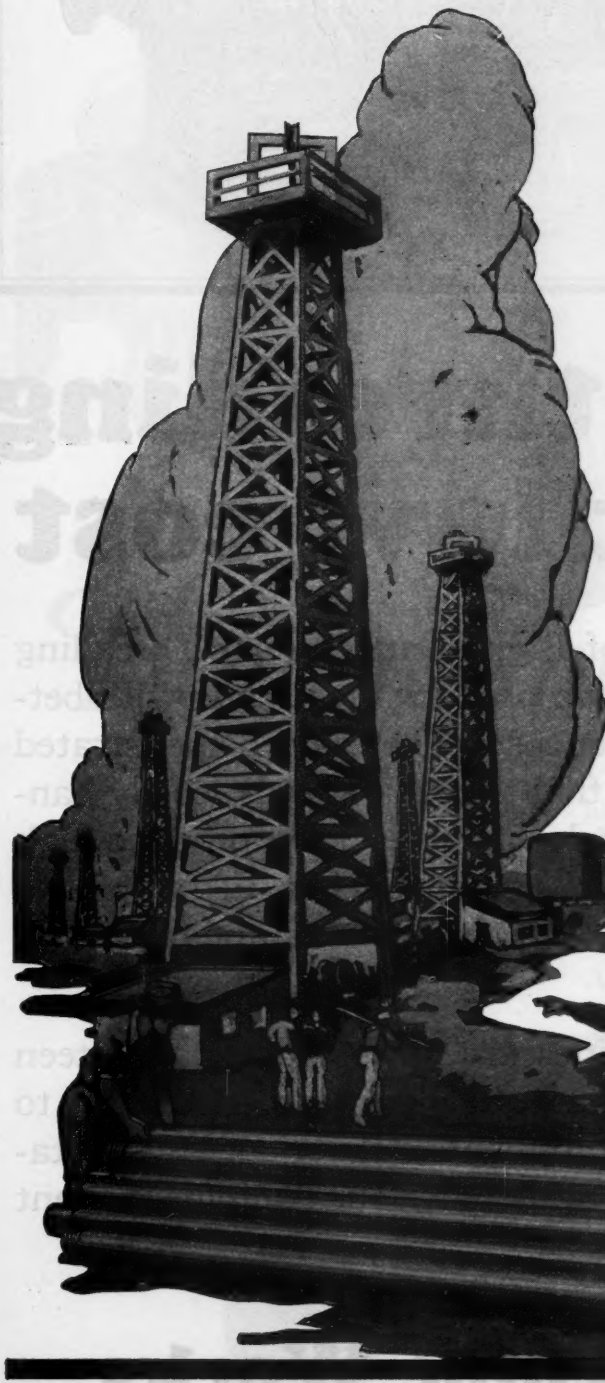
TITUSVILLE

OIL FIELD EQUIPMENT

ENGINES — PUMPS — BOILERS — DRILLING RIGS — STEAM

STANDARD

Since 1828



SEAMLESS

CASING

TUBING

DRILL PIPE

(Regular and Heat Treated)

LINE PIPE

STILL TUBES

Sizes 2 inch to 13⅜ inch O. D.

STANDARD

WELDED

CASING

STANDARD PIPE

LARGE O. D. PIPE

LINE PIPE

DRIVE PIPE

DRILL PIPE

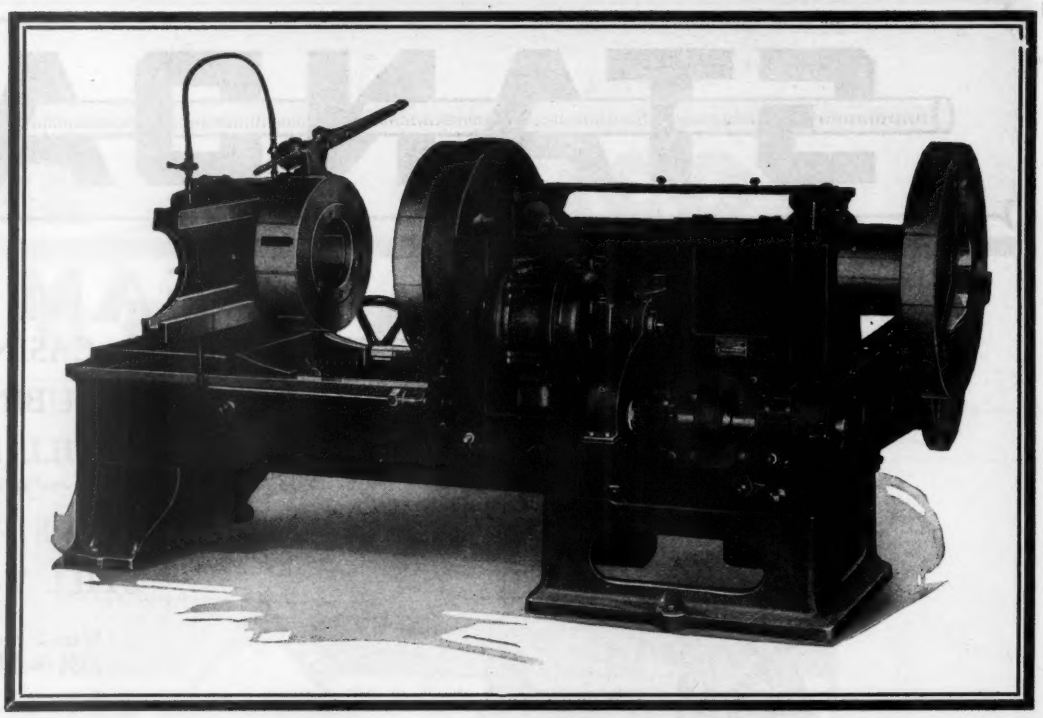
Sizes ⅛ inch to 24 inch O. D.

SPANG, CHALFANT & CO., INC.

General Offices: CLARK BUILDING, PITTSBURGH, PA.

Sales Offices: CHICAGO, ILL. NEW YORK, N. Y. ST. LOUIS, MO. PITTSBURGH, PA. TULSA, OKLA. LOS ANGELES, CAL.

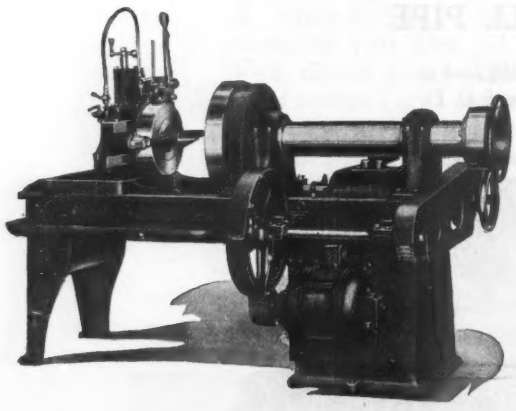
Welded Mills: ETNA, PENNA. SHARPSBURG, PENNA. *Seamless Mills:* AMBRIDGE, PENNA.



Bignall and Keeler Duplex Pipe Machine with individual, constant speed motor drive through gear box.

Fast, accurate threading —at low cost

Rear view of Peerless machine showing constant speed motor drive. All gears are shielded.



HUNDREDS of Bignall and Keeler Threading Machines have paid for themselves with better work and lower costs. They have demonstrated by actual service that they are speedy, easily handled, and always dependable. They produce high quality threads with unskilled labor. In many cases oil companies and pipe shops have standardized on B&K equipment.

B&K pipe machines are now made in seventeen types and sizes. Each machine has a wide range to meet oil field requirements. Ask for our latest catalog. It will help you select your equipment. Sent free of charge.

Bignall & Keeler Machine Works

of the N. O. Nelson Mfg. Co.

EDWARDSVILLE, ILLINOIS

PEERLESS B&K DUPLEX P.D.Q.C

PEERLESS B&K DUPLEX P.D.Q.C

OGJ 12-19 Gray

Darling Forged Steel Gate Valve, Dar-o-loy trimmed, for drilling well control, flow lines and other hazardous conditions.

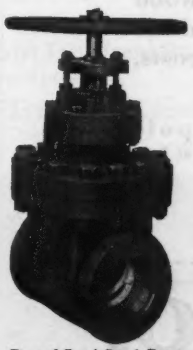
["Beware of Little Expenses — A Small Leak Will Sink a Big Ship."
—Ben Franklin.]

How many years of service?

You have probably thought of the service built into a valve as something like the horse-power in an engine. Something that can't be seen at a glance—yet can be pretty closely figured.

You are both right and wrong. Much can be determined by examination of the mechanical construction. Very little can the purchaser know of the material, methods of building, inspection or tests by the manufacturer.

A better valve than the Darling Gate Valve cannot be made. It is built upon the soundest mechanical principles. It is made of the finest metals and with the most exacting workmanship, inspections and tests. Yet the Darling Gate Valve costs you but little more than ordinary valves.



Darval Semi-Steel Gate Valve, Dar-o-loy trimmed. Made in all sizes for general field use, pipe lines, drilling through, well control and well flow lines.

DARLING VALVE & MANUFACTURING CO.
Williamsport, Pa.

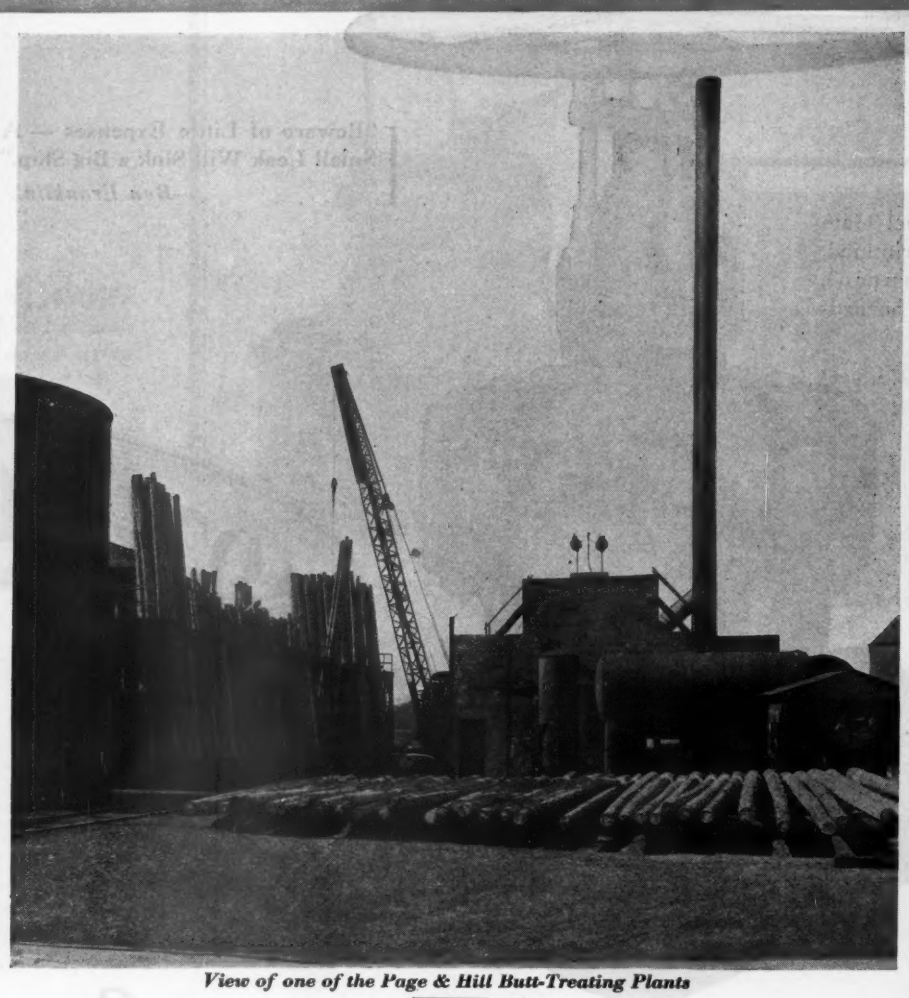
New York Chicago Oklahoma City Houston

Mid-Continent Distributors
Frick-Reid Supply Corp. Petroleum Supply Co.
International Supply Co.

California Distributor
Petroleum Equipment Company, Los Angeles

Foreign Sales Manager
H. M. Hein, Room 1405, 152 West 42nd Street, New York, N. Y.

DARLING
GATE VALVES



View of one of the Page & Hill Butt-Treating Plants

P&H

"P & H Process"—the Original *Guaranteed Poles*

"P & H Process" Poles were the first Cedar poles having a guaranteed penetration of the preservative throughout the groundline area. They were first made available to pole users nearly a decade ago.

The "P & H Process" makes possible a length of life in the groundline section equivalent to the life of the pole above ground . . . . the one necessity to assure maximum life of the entire pole.

For your protection, we give a written guarantee with every carload of "P & H" Process" Poles. This guarantees a full sapwood penetration to a depth of one-half inch throughout the groundline area. For longest pole life and greater economy in line costs, specify "P & H Process" Poles.

Fast Shipping Service on all your pole requirements.

"Still in the Lead"

PAGE AND HILL CO.

MINNEAPOLIS, MINN.

Kansas City, Mo., 517 Pioneer Trust Bldg.
Omaha, Neb., 711 Electric Bldg.

Chicago, Ill., 19 So. La Salle St.
Dayton, Ohio, 854 Reibold Bldg.

New York, N. Y., 50 Church St.
Boston, Mass., 733 Public Service Bldg.

Franklin Valveless Oil and Gas Engines

Facts Are the Yard Stick of Value

After all it isn't talk but actual facts that tell you how good a drilling engine is—here are some facts—

J. R. Robertson of Wichita, Kansas, owns and operates two new OF 80 HP Oil Drilling Engines and two BG Clutches.

The engine shown is on its second location at Creson No. 1—¾ of a mile north of Valley Center. On this engine's first well they set 255 ft. of 15″ pipe, 1370 ft. of 12″ pipe, 2433 ft. of 10″ pipe, 2700 ft. of 8″ pipe and 3200 ft. of 6″ pipe, completing the well at 3466 ft. The well was started Feb. 3rd and finished Apr. 12th—actual drilling time not recorded. The fuel used was distillate 38-40 gravity. The average consumption was 35 gals. per 24 hours. At present Robertson's two engines are handling 9-inch bailers 60 ft. long in 10-inch holes.

Robertson says in a letter to us—"We have found this equipment to be very satisfactory for cable tool drilling, easy on belts and wire lines, also very economical on fuel and lubricating oils. Up to the present time we haven't spent a single penny for repairs on these outfits."

Franklin Valveless Engine Company
Franklin, Penna.

PRICES

40 HP Type OF Franklin, including water circulating pump and pulley. *$1550 F.O.B. Franklin*

50 HP Type OF Franklin, including water circulating pump and pulley. *$2050 F.O.B. Franklin*

80 HP Type OF Franklin, including water circulating pump, pulley and air starting equipment. *$3200 F.O.B. Franklin*

NOTE—Type OF is readily converted into type OG for gas fuelization.

Some of the Franklin OF Good Points

- Enclosed type
- Low fuel consumption
- 100% interchangeability
- Simplicity
- Piston rod is fitted with metallic packing which never needs adjusting or replacing
- Every spring exposed
- Complete simplicity with practically no adjustment
- In case of belt breakage engine automatically stops
- Fuel pump driven by eccentric running in oil bath
- Bearings are removable and reversible
- Only standard threads used. No special wrenches required
- Cylinder has 3 point, force feed lubrication
- Balance of lubrication is splash feed
- Pistons are air cooled
- All nuts subject to vibration are castellated and fastened with cotter pins.
- Most economical to operate in fuel, lubricant, water and repairs
- Easy to start

Type BG Clutch for Cable Tool Drilling or Pumping

- A vast improvement over the former type of clutches.
- Driven from pulley on engine. Permits the use of a larger diameter pulley and makes possible a slower clutch speed. Operates by hand lever on derrick.
- Construction and design prevent Reverse Clutch Troubles.

PRICE—$1200.00 F.O.B. Franklin, Penna.

Distributed by

OIL WELL SUPPLY COMPANY

Branches in All Oil Fields

Griscom-Russell

Heat Transfer Apparatus

HEAT EXCHANGERS
CONDENSERS
Sub-cooling—Partial—Reflux
Shell-and-Tube, Atmospheric, and Condenser Box Types
COOLERS
Liquid—Gas—Jacket Water
Shell-and-Tube, Atmospheric, and Condenser Box Types
OIL HEATERS
LEVEL CONTROLLERS

Triple protection against leakage

ONE of the many important advantages of G-R Shell and Tube Heat Transfer Apparatus is the security against leakage from one fluid to another past the joint between the tubes and tube plates. The tubes are roller expanded into grooved tube holes in the plates and the expanding process forces the tube metal into these grooves, securely anchoring the tube ends without the use of sweated joints, ferrules or glands.

An additional safeguard against the development of leaks in service is the inside floating head construction which accommodates all expansion movement and prevents strain on the tube joints or heads.

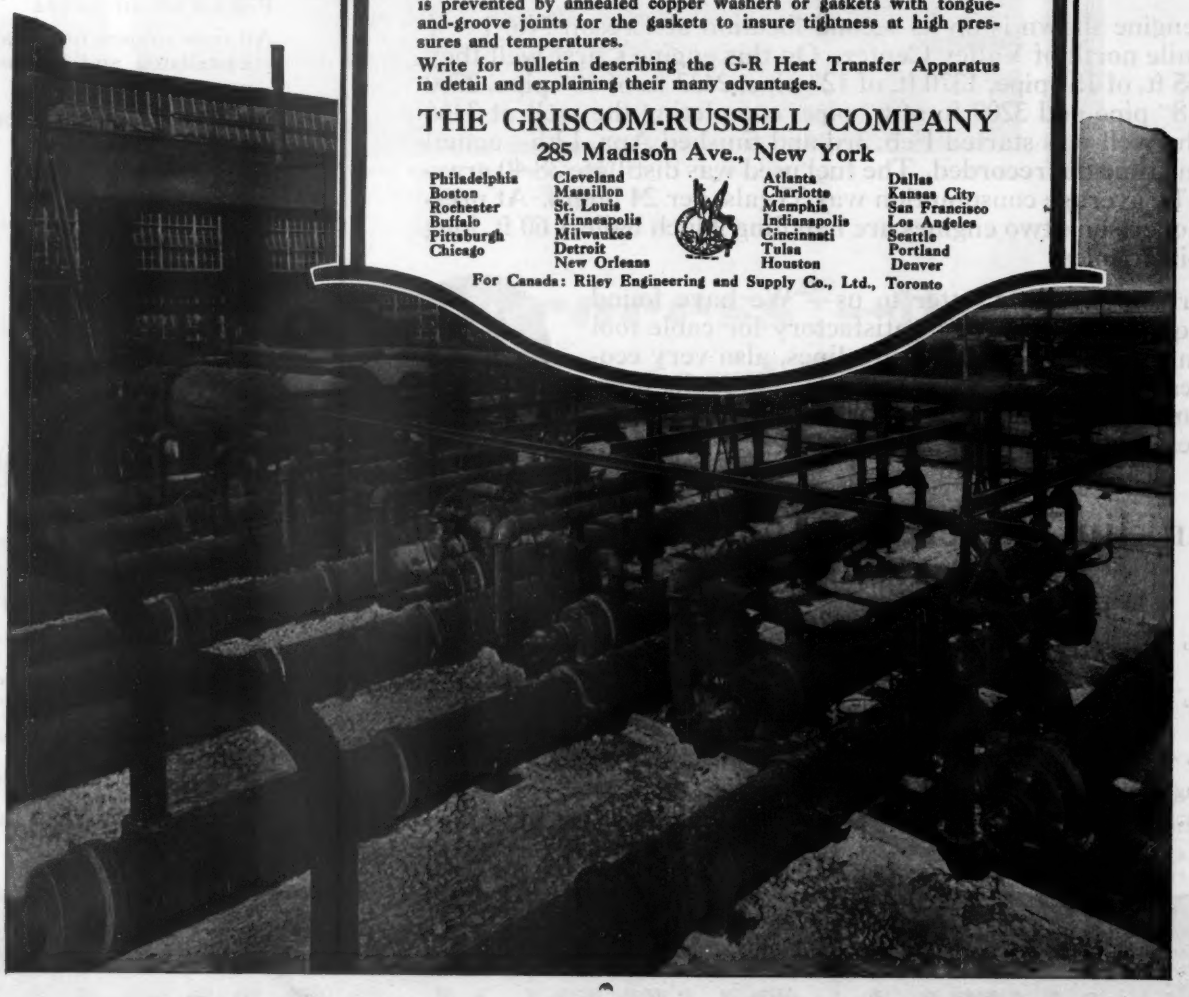
Special provisions are also made to assure permanent tightness at flange connections. All staybolts are provided with cap nuts to prevent leakage around the threads, and leakage under the nuts is prevented by annealed copper washers or gaskets with tongue-and-groove joints for the gaskets to insure tightness at high pressures and temperatures.

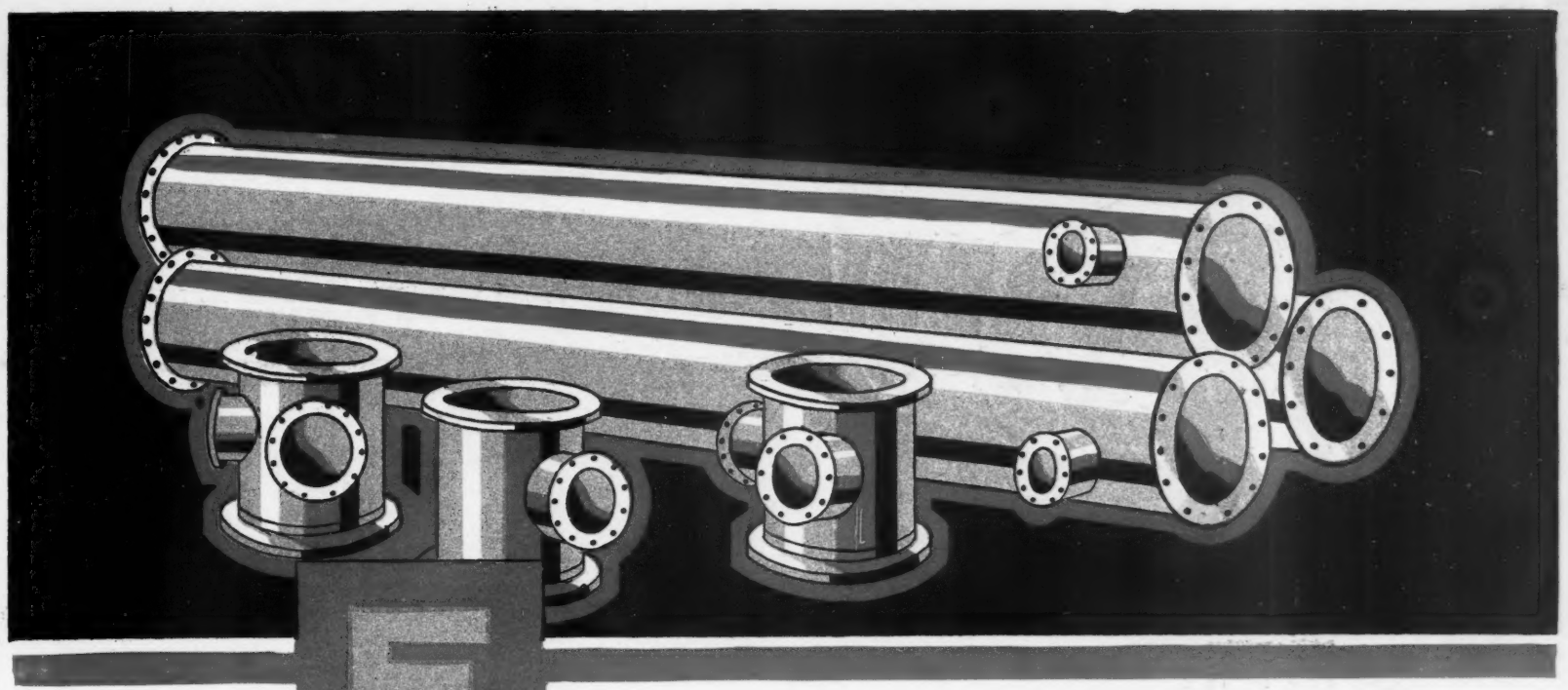
Write for bulletin describing the G-R Heat Transfer Apparatus in detail and explaining their many advantages.

THE GRISCOM-RUSSELL COMPANY
285 Madison Ave., New York

Philadelphia	Cleveland	Atlanta	Dallas
Boston	Massillon	Charlotte	Kansas City
Rochester	St. Louis	Memphis	San Francisco
Buffalo	Minneapolis	Indianapolis	Los Angeles
Pittsburgh	Milwaukee	Cincinnati	Seattle
Chicago	Detroit	Tulsa	Portland
	New Orleans	Houston	Denver

For Canada: Riley Engineering and Supply Co., Ltd., Toronto





ENDURO

ENDURO KA2

provides the *corrosion control* essential for process industries

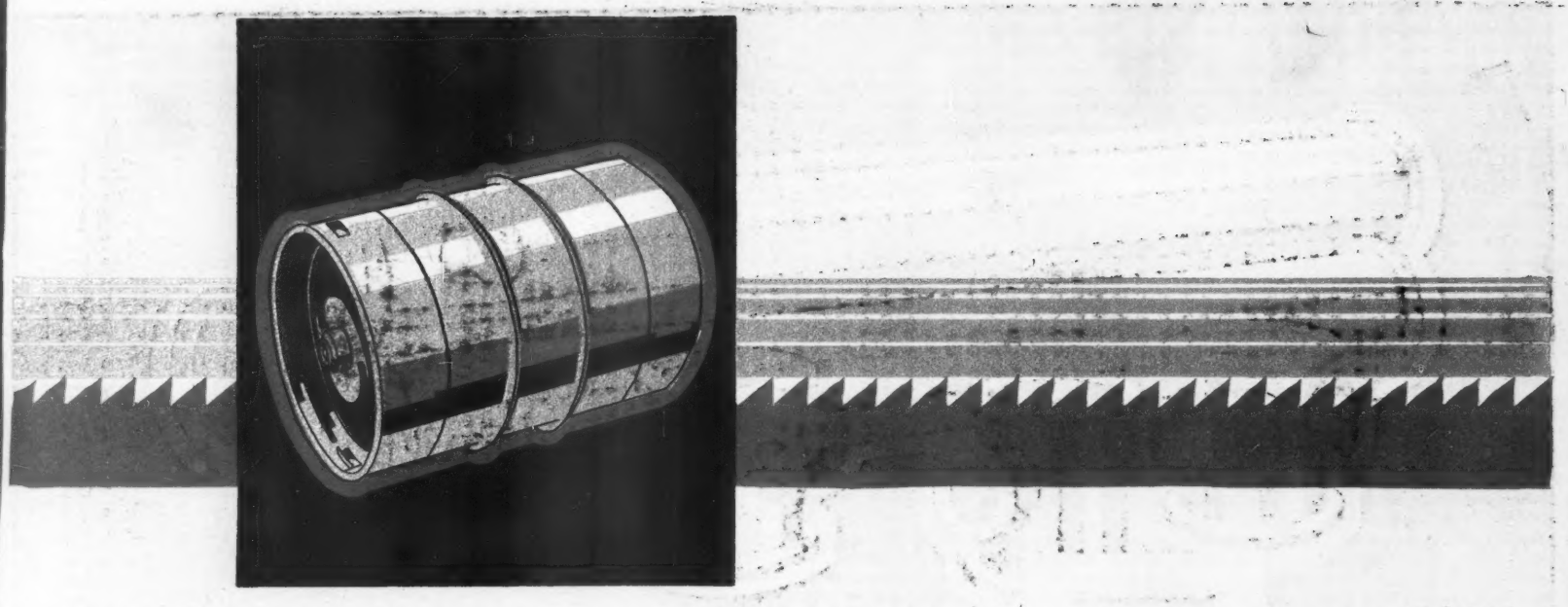
MANUFACTURERS and designers of equipment used in the process industries have turned to Enduro Nirosta KA2 for the solution of their corrosion problems. ▲▲ This new chrome-nickel-iron alloy resists a wider range of corrosive media than any other comparable material. Even at great temperatures and pressures it easily withstands the attack of many acids and chemicals that quickly destroy other metals. ▲▲ In addition, Enduro also provides all mechanical qualifications essential for fabrication. It has working qualities similar to those of ordinary steel. And tough, ductile welds are obtained due to the fact that Enduro has no capacity for hardening except by cold working. ▲▲ In all process industries, wherever corrosive products are manufactured or must be handled, Enduro KA2 provides the CORROSION CONTROL and all other requirements essential for economical operation. ▲▲ The companies listed below are licensed to produce Enduro KA2 in America. Metallurgists of these companies will be glad to discuss your corrosion problems with you, and furnish complete information relative to the advantages of Enduro KA2.

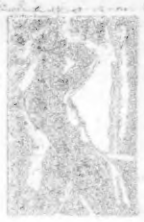
NIROSTA KA2 STEEL

CENTRAL ALLOY STEEL CORP.
Massillon and Canton, Ohio

LUDLUM STEEL COMPANY
Watervliet, N. Y.

THE BABCOCK & WILCOX TUBE CO.
85 Liberty Street, New York, N. Y.





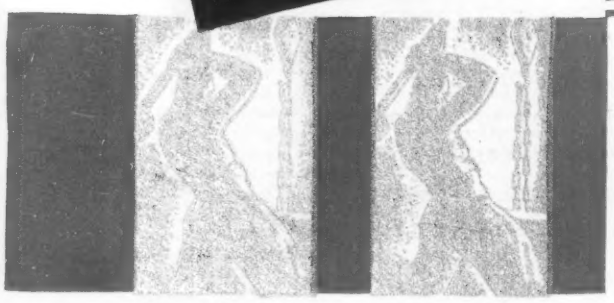
ENDURO has met a definite need in industry. Already scores of manufacturers are using or experimenting with this new steel that neither stains, nor tarnishes, nor rusts. ¶ Enduro is an alloy of chromium, nickel and iron. It is proof against water, atmospheric attack, dilute solutions and even acids at high temperatures and under great pressures. ¶ Its lustre is permanent! An occasional wiping with a damp cloth is sufficient to preserve its spotless cleanliness indefinitely. Enduro is the same durable metal throughout—never wears thin or grows spotty. ¶ Enduro is stronger than most steels. It can be deep drawn, wire drawn, spun, machined and welded. Available in the conventional shapes and sizes. And in spite of its unusual qualities, Enduro is practical from the standpoint of costs.

A striking booklet describes this new steel. Write for it today. Address any of the three companies listed below. No obligation is involved.

CENTRAL ALLOY STEEL CORP. Massillon and Canton, Ohio

LUDLUM STEEL CO. Watervliet, N.Y.

THE BABCOCK & WILCOX TUBE CO. 85 Liberty St., New York City, N.Y.



ENDURO NIROSTA KA2 STEEL

WITHOUT HUMAN FACTOR

Scientific
Heat Treatment
OF AXELSON LINERS » » »

Brought from the Axelson foundry where they are cast from the finest of gray iron, Axelson Pump Liners are scientifically heat treated in an automatic furnace designed for this specific purpose. Controlled electrically, the furnace applies heat over a fixed period of time and each Liner is treated uniformly. This scientific seasoning and hardening of the Liners assures uniformity of grain structure, hardness and eliminates internal stresses, The graphite element is brought to the surface increasing ease of lubrication. The heat treatment does not depend upon human judgement.

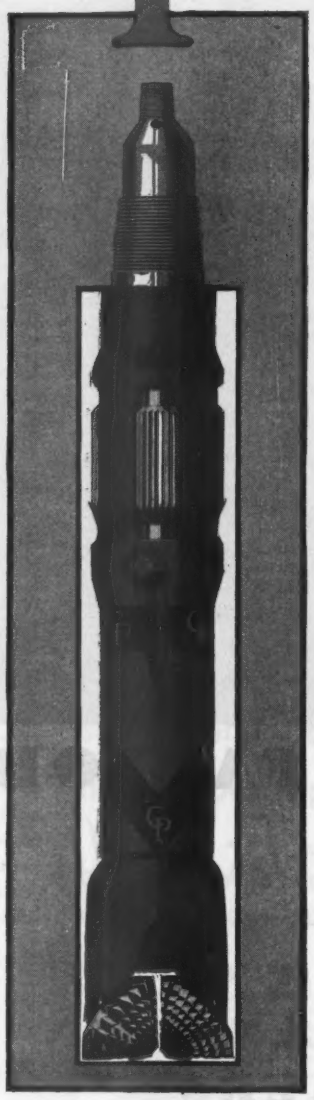
AXELSON MACHINE COMPANY
P. O. Box 337, Los Angeles ◆ Tulsa ◆ St. Louis
New York City, 30 Church Street
Mid-Continent and Eastern Distributors
Frick-Reid Supply Corporation

Axelson **LINER PUMPS**

With the NEW CP "Tucone" ROCK BIT

9 POINTS OF SUPERIORITY

1. SAFETY—Extra large drop-forged spindle bearings. No cone bushings. One-piece bit head. One-piece reamer body. FISHING ELIMINATED
2. CIRCULATION—Fluid stream jets directly on bottom of hole. No side-wall hydraulicking. STRAIGHT HOLE
3. CLEARANCE—Over 34% of hole area is clear. "Balling up" eliminated. STRAIGHT HOLE
4. CONES AND SPINDLE BEARINGS—Cones run on extra large replaceable drop-forged spindle bearings. Stronger and thicker cone wall section due to absence of bushing. GREATER STRENGTH
5. REAMERS—Three units, properly spaced and located for accurate reaming. New type reamer bearing eliminates wear on reamer body. KEEPS GAUGE—ALWAYS!
6. ONE-PIECE BODIES—Both bit and reamer bodies are solid manganese steel. GREATER STRENGTH
7. REPLACEMENTS—Cone-and-bearing units and reamers easily and quickly changed. TIME SAVED
8. LOW MAINTENANCE—Body repairs eliminated. No wear on bit head or reamer body. MONEY SAVED
9. CONE SERVICE—New CP "Red Head" cutting cones can be refitted on your used bearings (only at authorized CP Service Stations) and guaranteed by CP to be as good as if a new bearing were used—at a great saving to you! ECONOMY

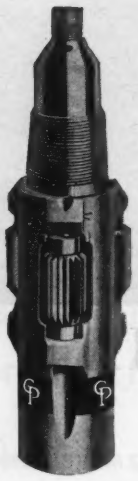


(PATENTED)

LOW MAINTENANCE!

Body repairs eliminated. No wear on bit head or reamer body.

MONEY SAVED!



The Reamer Body

THERE is no wear whatsoever on the bit and reamer bodies. Each is a one-piece manganese steel casting for strength and rigidity. The only wearing parts are the reamer cutters and bearings and the cutting cone units—and these quickly removable parts are made of the finest quality chrome nickel steel, drop-forged, properly heat-treated and hardened for strength and durability that enable them to last HOURS longer!

The Bit Body

CHICAGO PNEUMATIC TOOL COMPANY

General Offices: Chicago Pneumatic Bldg., 6 East 44th St., New York

OIL TOOL DIVISION OFFICES: OKLAHOMA CITY, OKLA. 655 Santa Fe Ave., LOS ANGELES, CAL.

KEEPS GAUGE ALWAYS! OT-18

That the use of CP "Tucone" Rock Bits will unquestionably result in lower drilling costs, we are ready and willing to prove in any way YOU say! An inquiry to any of the above addresses will receive immediate attention.

SKILLED SUPERVISION

Guarantees the Quality

OF GULF PRODUCTS

COASTAL AND PARAFFINE CRUDES—
GASOLINE—LUBRICATING OILS—
NAPHTHA—GAS—OILS—
WAX—PETROLEUM COKE—
CYLINDER—ENGINE—CORDAGE

GULF REFINING COMPANY

General Sales Offices: PITTSBURGH, PA.

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—Ocean Terminals—

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Port Tampa, Fla.
Mobile (Magazine Point, Ala.)
Philadelphia (Girard Point, Pa.)
Charleston, S. C.
Savannah, Ga.
New Orleans (Gretna, La.)
Port Arthur, Texas
Galveston, Texas

Christmas Greetings

To everyone in the Oil Industry

WE EXTEND these greetings with a feeling of pride in having served our clients conscientiously thru another year.

MANY are those who are happy in the security of complete insurance protection — safe from loss thru the many dangers of this modern age.

OUR insurance service organization is at your service any time.

MAY 1930 be the most prosperous year you have ever enjoyed.

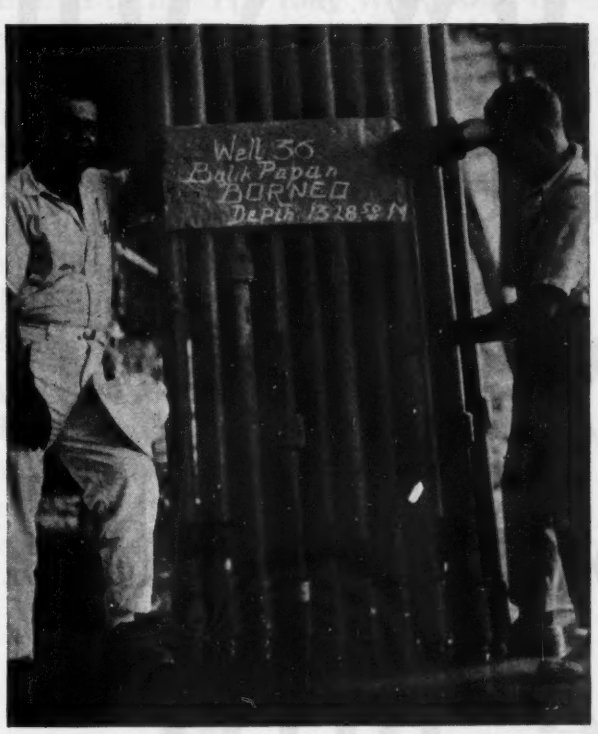
The Frates Company

Insurance & Bonds

310 Philtower
TULSA, OKLAHOMA

1013 Perrine Bldg.
OKLAHOMA CITY, OKLA.

Tough drilling *in* BORNEO *made easier with* BETTIS *Protectors*



Drilling under extreme difficulties — where severe climatic conditions and tricky strata formations combine in making drilling a problem—the Borneo fields are considered a perfect test for equipment. Thousands of Bettis Protectors are in service in Borneo and other overseas fields. Bettis Protection is as *standard* in Borneo as at Signal Hill or Kettleman or any of the scores of deep drilling fields in the U. S.

Extreme climatic conditions have no harmful effect on Bettis Protectors. Nor does the temperature within the well. Once placed upon the drill pipe the Protectors STAY—and will actually outlast the pipe. No hinges, no pins, no wire or other metal is required. The Protectors retain their grip permanently. More than 200,000 Bettis rubbers placed in service testify to their universal satisfaction. More than 95% of all deep wells now drilling are Bettis-protected—a fact that speaks for itself.

Ask for engineering catalog.

Fully Patented

Patterson-Ballagh Corp.
Insurance Exchange Building, Los Angeles

Texas and Gulf Coast Distributors:
Bettis Sales Co., 616 Public National Bank Bldg., Houston
Oklahoma Distributors:
Bailey & Becker Company, 410 Thompson Bldg., Tulsa
New York Office: 39 Cortland St.
Carried in stock at Los Angeles, Santa Fe Springs, Ventura, Kettleman Hills, Bakersfield, Coalinga, Long Beach, Tulsa, Houston, Wink, Texas; Calgary, Alberta, Canada; New York City.

Bettis — *the best known name in rotary drilling*

"Best bet yet!"

Speedy delivery is assured by our exclusive, continuous process of coating and wrapping. The production capacity of our six plants is 50 miles of pipe per day. This capacity is continually being increased.

Now you can buy line pipe mechanically coated and wrapped at the mill

Field application of pipe line coating has always proved a hazardous and unsatisfactory process. Unfavorable weather conditions and the difficulty of properly cleaning the pipe and applying the coating, so as to cover the surface thoroughly, are but a few of the disadvantages.

For many years the Hill, Hubbell & Company laboratories and field staff have been active in developing improvements with the result that pipe coated and wrapped by machine *at the mill* is now a reality. The economy and practicability of this method are recognized by prominent pipe line owners. This outstanding development in the line pipe industry means that your pipe is delivered in the field, ready to lay, and can be rolled into the ground with the assurance that your investment is protected to the fullest extent.

The Hill, Hubbell & Company process of mechanically coating and wrapping pipe *at the mill* presents the following advantages over every process of applying coatings used in the past:

1. The pipe is thoroughly cleaned of rust and mill scale.
2. It is not only thoroughly dry but warm when the primer is applied.
3. The required thickness of the protective coating of bitumen is applied *before* the felt is applied.
4. This thick coating is applied in two coats, insuring freedom from pin holes and bubbles.
5. The coating of felt is applied under tension and is exactly spaced and, therefore, perfect.
6. The whole process is mechanical, involving no human element, and no waste.
7. The entire operation goes on under roof and can proceed night and day regardless of weather.
8. Exact temperature control of the bitumen is possible. This is important and cannot be had in field operations.

BITURINE COATINGS

Biturine Enamel *Biturine Solution No. 5*
Biturine Enamel Primer *Biturine 70-30*
Biturine Coupling Mixture

This group of protective coatings represents the fruits of more than 20 years of careful research and practical experience. Biturine Enamel and Primer are particularly adapted to the Hill, Hubbell & Company process of mechanically applying protective coating to the pipe at the mill.

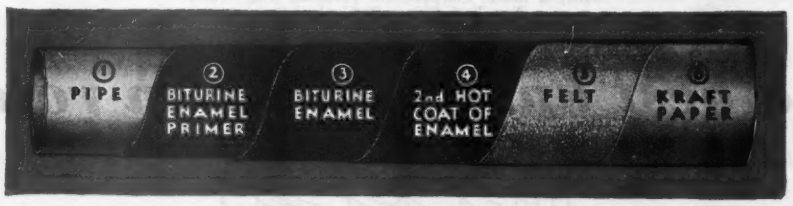
Plants for the mechanical coating and wrapping of pipe are located in the following cities for the production of the pipe manufacturers listed:

Location	*For Production of*
Ambridge, Pa.	Central Tube Company
Ambridge, Pa.	Spang-Chalfant & Company
Indiana Harbor, Ind.	Youngstown Sheet & Tube Co.
Lorain, Ohio	National Tube Company
Milwaukee, Wisc.	A. O. Smith Corporation
Youngstown, Ohio	Youngstown Sheet & Tube Co.

Our nearest office will be glad to send you literature describing the process and giving details about specifications which cover a wide range of combinations of materials.

GENERAL PAINT CORPORATION
HILL, HUBBELL & COMPANY DIVISION

CHICAGO NEW YORK TULSA HOUSTON DALLAS SAN FRANCISCO
OAKLAND LOS ANGELES PORTLAND SEATTLE SPOKANE



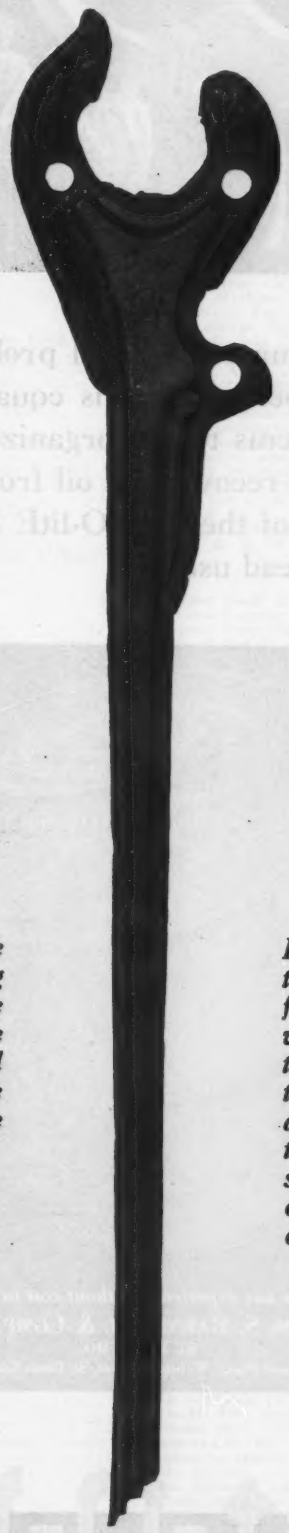
Hill, Hubbell & Company Machine Coated and Wrapped Pipe is Your Best Insurance Against Corrosion

MAKE-UP *or* BREAK-OUT

without reversing the W-K-M Petol Tubing Tong

You don't have to remove the tong from the tubing when you want to reverse the movement as in breaking out a joint. Just close the safety lock on the side, and go to it! The tong won't slip, because its grip is secure and certain. The safety lock is one of the many attractive advantages which W-K-M Tubing Tongs offer. In addition to providing the roustabout with complete safety from slipping on a wet derrick floor, it enables the tong to be used in either direction, backward or forward, with equal wrenching effectiveness.

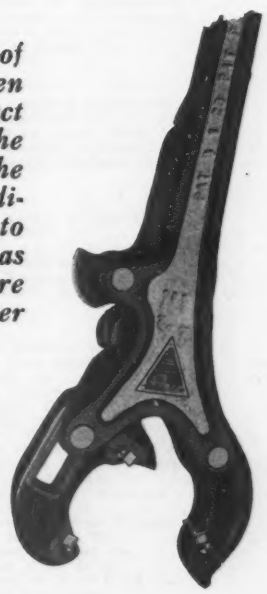
Make-up or break-out work can be done no matter which way the tong is put onto the pipe. The safety lock tightens the grip of the jaws enough to prevent the tong from slipping, making the steel bits grip at the same angle on the pipe, in the break-out movement as in the make-up. Although the grip is tight, there is no possibility of crushing the pipe because W-K-M Tongs are provided with a bumper in one of the jaws which limits the ultimate closure of the jaws themselves.



The break-out feature is, however, just one of several exclusive advantages which W-K-M Tubing Tongs offer. There are probably no other tongs which can be applied with such speed and safety. The W-K-M Tong is stabbed on, and it's ready. A slight jerk, and it's off. The operator does not have to "get anything ready" when the tong is to be used. Being light in weight and compact, the tong is easily handled.

In the illustration on the left will be seen the Tong in LOCKED position. The short lever, located on the side of the tool, is moved forward. This closes the jaws, thus tightening the grip.

Illustrating the position of the jaws as they are when forced OPEN by contact with the tubing. When the tong is removed from the tubing, the jaws immediately spring back into their normal position, as shown in the full picture of the tong at the center of the page.



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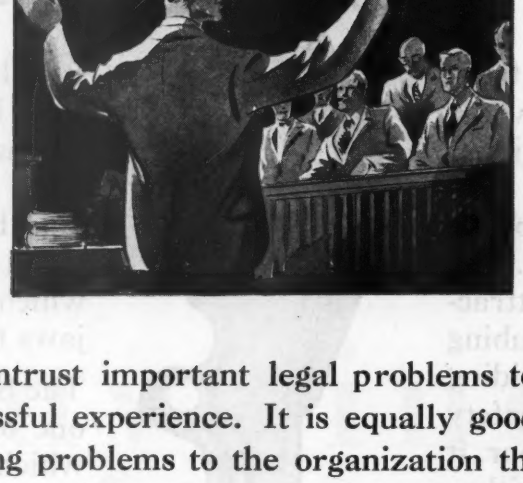

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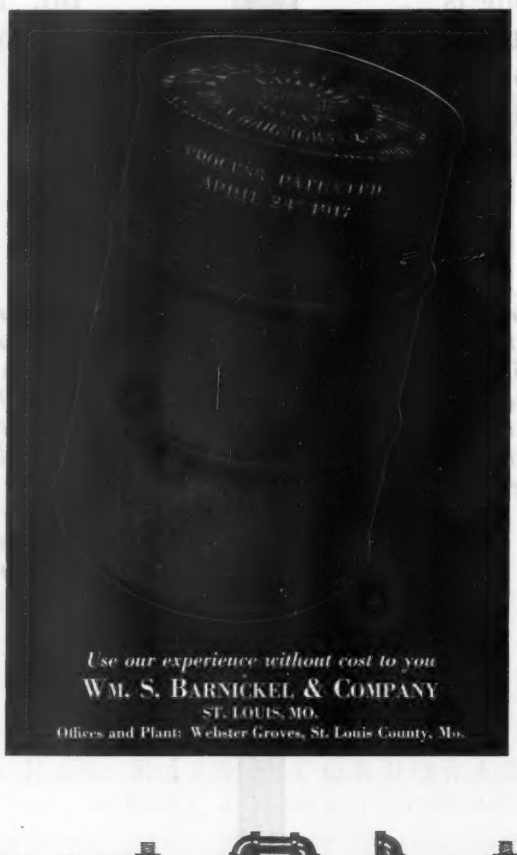

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The Oil and Gas Journal

PRODUCING REFINING ENGINEERING MARKETING

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Much Depends Upon Santa Fe Springs

Highest daily average estimated total production in 1928, week ended Dec. 29, 2,585,844 bbls. Lowest in 1928, May 19, 2,338,241 bbls.

If Situation There is Controlled Conditions Throughout Country Will Be Good. New Drilling Plan Favored

Highest daily average estimated light oil production in 1928, week ended Dec. 29, 2,158,134 bbls. Lowest in 1928, Mar. 3, 1,927,713 bbls.

By Andrew M. Rowley

The Santa Fe Springs Field in California continues to be the dominant factor in the crude petroleum situation although other areas could easily and quickly threaten the general outlook were there any lessening of the conservation efforts. Difficulty in getting all operators at Santa Fe Springs to cooperate wholeheartedly in the movement to hold down production in that field more nearly to market requirements is the element causing that field to be a menace at this time. It is understood just one operator in the pool threatens success of the conservation movement there although a large majority of the operators are hopeful the situation will right itself especially since a plan has received approval of a majority which would restrict the opening of newly drilled wells until additional production could be handled.

Unless a definite agreement is reached at Santa Fe Springs which will care for the situation and prevent a further flooding of the crude market with flush production expected from the large number of wells nearing completion there, it is believed crude oil prices at Santa Fe Springs will be reduced very materially. In such an event, it is also felt low prices would then be maintained in that field for a much longer period than was the occasion recently when prices were reduced.

The industry in California is not in position to absorb the large quantity of new production which would be obtained from completion of all the wells now drilling at Santa Fe Springs. The purchasing companies under such a condition would be forced either to refuse to accept the oil, necessitating producers building their own storage, or they would have to cut the price very materially to compensate themselves for storing the crude until there was a demand for it.

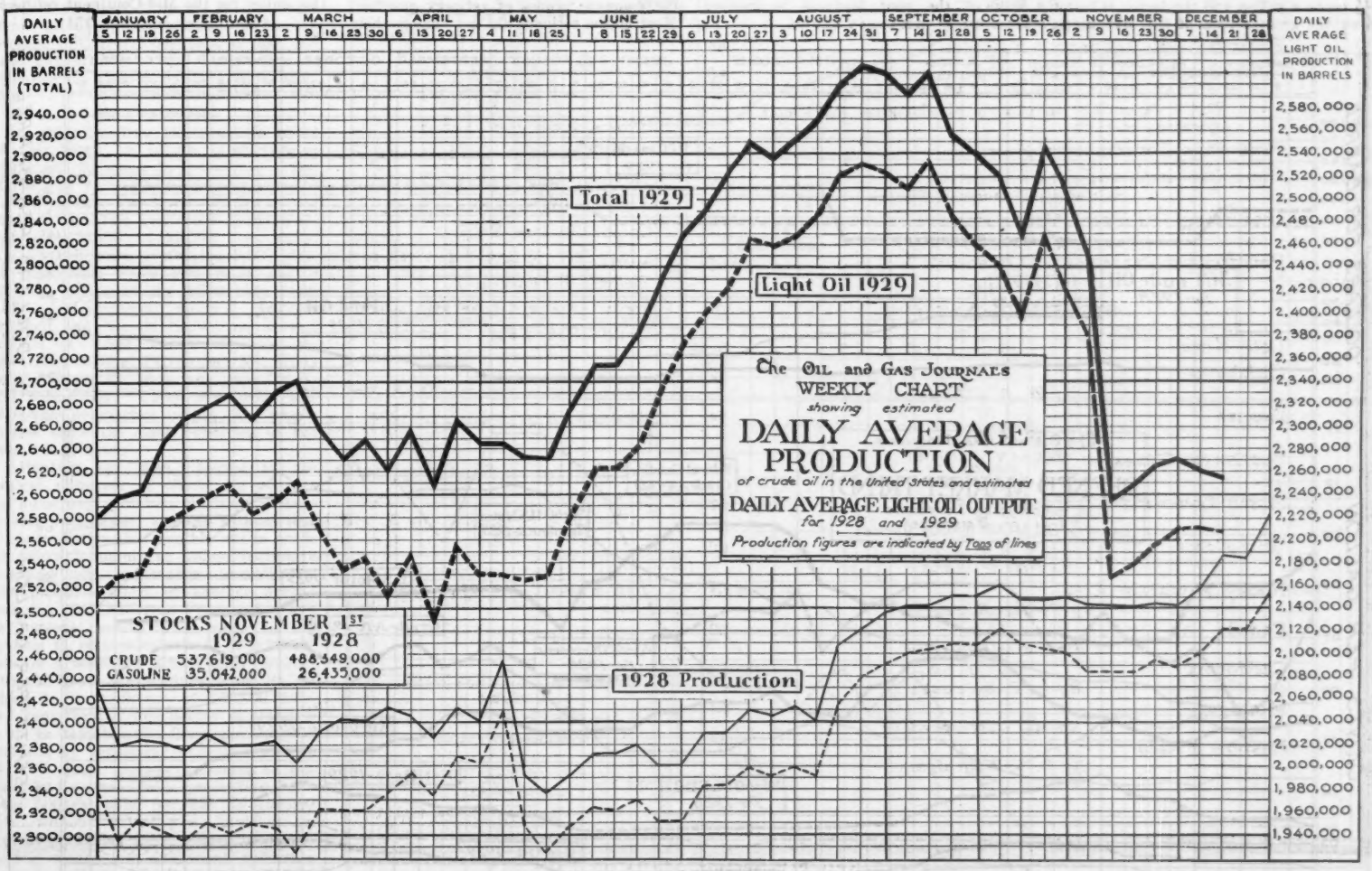
If an agreement is made effective at Santa Fe Springs holding production there to the 150,000 barrels daily decided upon some time ago, the industry throughout the country will be in a better condition than it has been at this period of the year for several years.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended December 14, and a comparison with the previous week follows:

	Dec. 14		Dec. 7	
	Light	Heavy	Light	Heavy
Oklahoma—				
Oklahoma City	64,410	.....	72,620	.....
St. Louis-Pearson	55,435	.....	54,845	.....
Seminole	231,180	.....	233,210	.....
Northern Miscellaneous	241,185	.....	236,050	.....
Southern Fields	57,770	.....	57,740	.....
Total Oklahoma	649,980	.....	654,465	.....
West Texas—				
Hendricks	95,040	.....	98,445	.....
Yates	142,700	.....	145,010	.....
Remainder	113,401	.....	111,837	.....
Total West Texas	251,141	.....	355,292	.....
North Louisiana	34,085	5,530	33,090	5,500
Arkansas	19,205	43,230	19,055	43,745
North Central Texas	140,211	.....	145,151	.....
Texas Panhandle	102,773	.....	100,615	.....
East Central Texas	19,814	.....	18,420	.....
Kansas	109,720	.....	108,965	.....
Total Mid-Continent Area	1,427,019	48,760	1,435,053	49,245
Gulf Coast	.....	183,049	.....	178,185
Southwest Texas	.....	55,805	.....	57,784
Eastern	135,000	.....	135,000	.....
Rocky Mountain Area	74,654	.....	70,211	.....
California—				
Santa Fe Springs	162,000	.....	168,000	.....
Long Beach	105,000	.....	105,000	.....
Huntington Beach	40,500	.....	41,000	.....
Elwood	37,500	.....	34,000	.....
Ventura Avenue	50,000	.....	53,000	.....
Seal Beach	29,000	.....	29,000	.....
Remainder of State	146,000	123,000	143,000	126,000
Total California	570,000	123,000	573,000	126,000
Total United States	2,206,673	410,614	2,213,264	411,214
Grand Total		2,617,287		2,624,478

Total Decrease, 7,191 Bbls.; Light Oil Decrease, 6,591 Bbls.



Exporters Buy Gasoline For 1930

Reported Purchases in Mid-Continent for January and February Total 25,000,000 Gallons. Little Activity in Oklahoma Market

By C. O. Willson

The announcement that export buyers were placing orders for the high gravity grades of refinery gasoline for January and February delivery was the only important development of the past week in the Oklahoma (Group 3) market which so far as current transactions were concerned was generally dull.

Reports up to the first of the week indicated that the future export business in the 390 and 375 endpoint grades would total around 25,000,000 gallons. All the refining areas in the Mid-Continent shared in the business although the bulk of the orders were as usual placed with the North Texas group of refiners. Export orders for high gravity gasolines are more attractive to the latter group of refiners than any other, due to favorable freight rates, quality of crude oil and an unfavorable situation in regard to domestic outlets.

The buyers are reported to have paid 7½ cents for the 390 and 7¾ cents for the 375 endpoint gasoline. These prices are on a North Texas basis. The Cities Service Export Oil Co., Carter Oil Co. (Standard Oil Co. of New Jersey). Sinclair Refining Co. and the Atlantic Refining Co. were all sharing in the purchases.

Other Products

There were few price changes in the general list of Oklahoma refined products for spot movement. The domestic market for refinery gasolines, particularly the U. S. Motor grade, is extremely soft. Oklahoma refiners complain of low-priced competition coming from other Mid-Continent groups and also Middle Western refiners. The latter have a freight rate advantage of from three-fourths cent to 1½ cents a gallon and the buyer is being given the greater part of this advantage in spot sales so that an Oklahoma refiner would be compelled to take less than 6 cents for U. S. Motor gasoline if he cared to compete for some of this business. Resale material in Oklahoma sold as low as 6 cents during the past week, although the bulk of the spot business is moving around 6½ cents.

Natural gasolines also weakened in price bringing the B, BB and C grades below 6 cents. The A and AA grades were not as weak but prices are lower than they were a week ago.

Kerosene continues to be as weak as the domestic grades of refinery gasoline. Most of the refiners did not change their prices during the week, but an occasional sale of distress material was reported at prices from one-eighth to one-fourth cent under the accepted general market level. Exporters have aided the situation somewhat by purchases of excess kerosene in the North Texas area. While none of the orders was large it is estimated that purchases since the first of December total in excess of 3,000,000 gallons.

The warmer weather in the middle western and northern states probably accounts for a softness in furnace oils which has become apparent during the past few days. Spot buyers have been able to shade prices at least one-eighth cent and the spot purchases are not heavy at any price.

Fuel oils, so far as the available supply from Oklahoma refiners is concerned, continues strong. However, brokers who placed orders with refiners early in the month are slow in ordering out material. Brokers are important factors in the spot fuel oil market, taking the bulk of the material available from refiners outside the regular contracts. Although fuel oils are believed to occupy a strong statistical situation, it may develop that the market was overplayed the first few days of December and prices will be easier before the end of the year.

Gasoline Outlook

Although the export business previously mentioned is a favorable development for the first two months of the new year it is far from a cure-all for all the ills of the refinery gasoline market in the Mid-Continent in the opinion of those who are endeavoring to gauge the probable price trends after the first of the year. The export purchases simply mean that this outlet for the Mid-Continent refiners

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REFINED MARKET BAROMETER

Except for refinery gasolines the only developments in the refined market over the past week were local in scope. A general weakness in the domestic grades of refinery gasoline continues. In some areas distress material has been sold at prices one-fourth to one-half cent under the usual quotations. Natural gasoline prices were again lowered except in California where prices have been advanced due to a smaller output brought about by the curtailment measures effective in the production of crude oil. Kerosene is weak in practically all areas and lower prices were announced at several points. Fuel oil prices were lowered at the Gulf Coast but otherwise were unchanged. Gas oil prices generally firm. Among the lubricants prices on several grades of steam refined and bright stocks were lowered in Pennsylvania and the East Coast. Wax market soft.

Mid-Continent—Both domestic grades of refinery gasoline and natural gasoline soft and prices lower. Placing of large export orders for high gravity low endpoint gasoline for January and February delivery aids those grades. Kerosene weak. Demand for furnace oil distillates slow. Fuel oil and gas oil prices unchanged. Lubricants and wax prices unchanged.

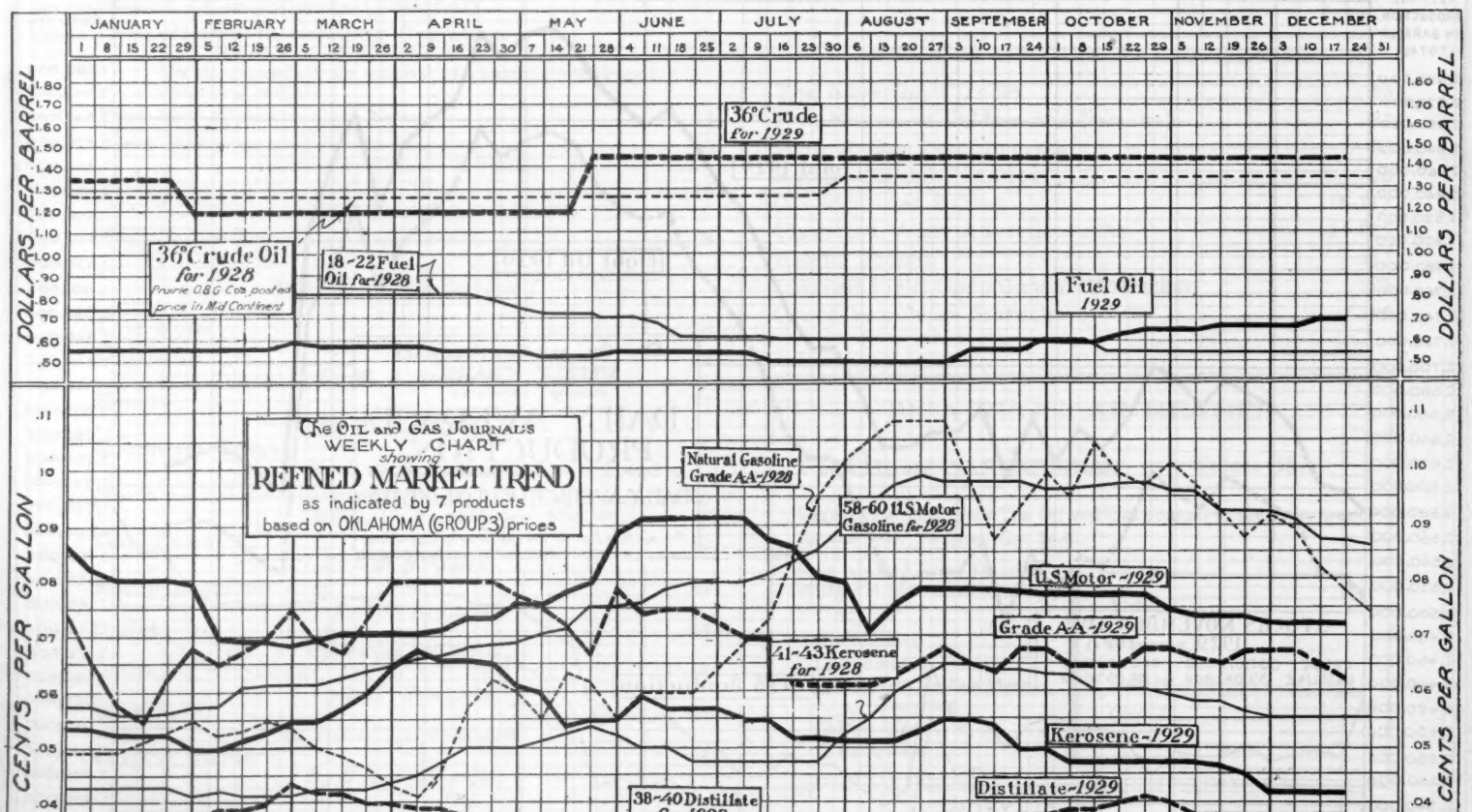
East Coast—Gasoline and kerosene prices unchanged. Several grades of steam refined cylinder stocks and bright stocks lower. Fuel oil prices unchanged with little change expected in immediate future. Petrolatum prices lower. Little demand for paraffin wax. Diesel oil and gas oil firm.

Pennsylvania—Minor changes in gasoline and kerosene. Several grades of steam refined stocks lower in price. Bright stocks not so active. Little spot demand for wax.

Chicago—Domestic grades of refinery gasoline lower in price. Kerosene dull and prices lower. Furnace oil demand slow. Good demand for zero gas oil. Less demand for fuel oil with no change in prices.

Gulf Coast—Fuel oil prices lowered in effort to reduce storage. Fair demand for neutrals.

California—Natural gasoline prices advanced due to smaller production. Gasoline market weak.



Santa Fe Springs Operators Take Action

Meeting Endorses Movement to Limit Operations and to Prepare Supplemental Agreement on Curtailment

By L. P. Stockman

LOS ANGELES, Calif., Dec. 17.—Santa Fe Springs operators, meeting at the solicitation of Umpire Grimm, took cognizance of the fact that something must be done immediately to alleviate the serious situation confronting the oil industry by tentatively agreeing to restrict development work in that field at least until after the present crisis has been passed. Those in attendance unanimously endorsed the movement under way to limit drilling operations and instruct the umpire to prepare a supplemental agreement to the existing curtailment agreement in order that the proposed regulatory measures may be put into effect as soon as possible. This supplemental agreement will probably be presented to all Santa Fe Springs operators some time within the next few days for signature and it behooves every single operator to sign on the dotted line.

The situation in this field has become especially critical due to the completion of numerous large wells in the lower Clarke zone and within another few weeks it will be utterly impossible to stem the tide of oil if drilling continues unabated and new wells are completed according to schedule. Santa Fe Springs has a present potential daily production of 325,000 bbls. and there is every indication that the potential may reach 500,000 bbls. a day within the next month unless something is done. There are 75 deep zone wells scheduled for completion between now and January 15 and with these prolific wells coming in for an average initial of 5,000 bbls. it does not take any stretch of the imagination to visualize the disastrous effect on production.

Big Completions

In order to show the probable effect of this work on future production it might not be amiss to enumerate a few of the new wells which came in over the past week end. The Union Oil Co. headed the list with two new wells showing an aggregate initial of 15,500 bbls. daily. No. 38 Bell came in flowing 9,000 bbls. per day from 8,000 feet while No. 9 Howard was good for 6,500 bbls. from 7,985 feet. George Getty's No. 28 Mitchell and No. 39 Nordstrum showed initials of 2,500 and 6,000 bbls. respectively. General Petroleum's No. 179-G on the Santa Fe lease was good for 6,250 bbls. daily. These new wells will of course be pinched in but they nevertheless show the flush condition of the deep Clark zone.

Attention has been directed to the critical situation at Santa Fe Springs on numerous occasions during the past several weeks and I can say without fear of contradiction that another cut in crude oil prices is imminent unless corrective measures are undertaken immediately. The probable effect of another drastic reduction in California crude oil prices on national conservation work is too obvious to require comment. The situation, in a nutshell, is that daily production at Santa Fe Springs must be reduced to a maximum of 150,000 bbls. and kept there if any degree of stability is to be maintained. This can only be achieved by regulating drilling activities as it is quite obvious it would be impossible to pinch daily production back from 500,000 bbls. per day to 150,000 bbls. without imposing a hardship on present producing wells. Each new completion means an additional reduction must be effected in the production of present producing wells so that if this condition continued long enough the operator with one or two producing wells and no further drilling under way would be bearing more than his share of the burden.

To Retard Completions

The supplemental agreement now in course of preparation anticipates the retarding of future completions until such time as the field production can assimilate the additional production resulting therefrom without voiding the present curtailment. It proposes that new wells shall be completed chronologically with the sequence of completion depending upon the order in which the water shutoff is effected above the zone to be produced. In other words, if well No. 1 secures a satisfactory water shutoff above the deep zone on December 18 and well No. 2 effects a shutoff on December 19 well No. 1 will be permitted to go on production first. This will prevent the completion of too many wells within a short space of time and will stabilize field production by permitting the completion of new wells at regular intervals. Umpire Grimm will be furnished with the date at which every drilling well effects a satisfactory water shutoff above the oil-producing horizon and he will designate the time at which the well can be completed.

It is believed that the proposed regulation affecting future completions will alleviate present conditions and remove the crisis which is now facing the entire oil industry. If Santa Fe Springs operators solve their problem and keep daily production down to the allowable maximum the outlook for 1930 will be a lot brighter. As has been mentioned on several occasions the California price structure during the next few months depends almost entirely on the co-operation secured at Santa Fe Springs. If the existing situation was not so critical there might be some doubt as to whether all operators would sign but right now it is a case of sink or swim. There is no middle ground.

Chairman Reiter's Comment

Judge Reiter, chairman of the conservation committee, minced no words the other day when he said: "One company is endangering the entire conservation movement in the California oil industry by its failure to curtail production at Santa Fe Springs. These people claim they are co-operating but they are not."

California operators have curtailed daily production 240,000 bbls. since November 1 as a result of concerted conservation work. Santa Fe Springs heads the list with a curtailment of 125,000 bbls. daily, followed by Long Beach with 75,000 bbls., Seal Beach with 13,000 bbls., Ventura Avenue 15,000 bbls., and Elwood with 12,000 bbls. This brings the total amount of oil restricted in California to 360,000 bbls. To put it in another way, California could immediately increase daily production by this amount if all restrictions were to be lifted.

New Wells Cause Anxiety

The chief cause of anxiety among those in close touch with the situation at Santa Fe Springs is the large number of new wells scheduled for completion in the deep zone during the next 60 days. Many feel these new potential producers will offset present curtailment and practically prevent the umpire from getting daily production down to the established

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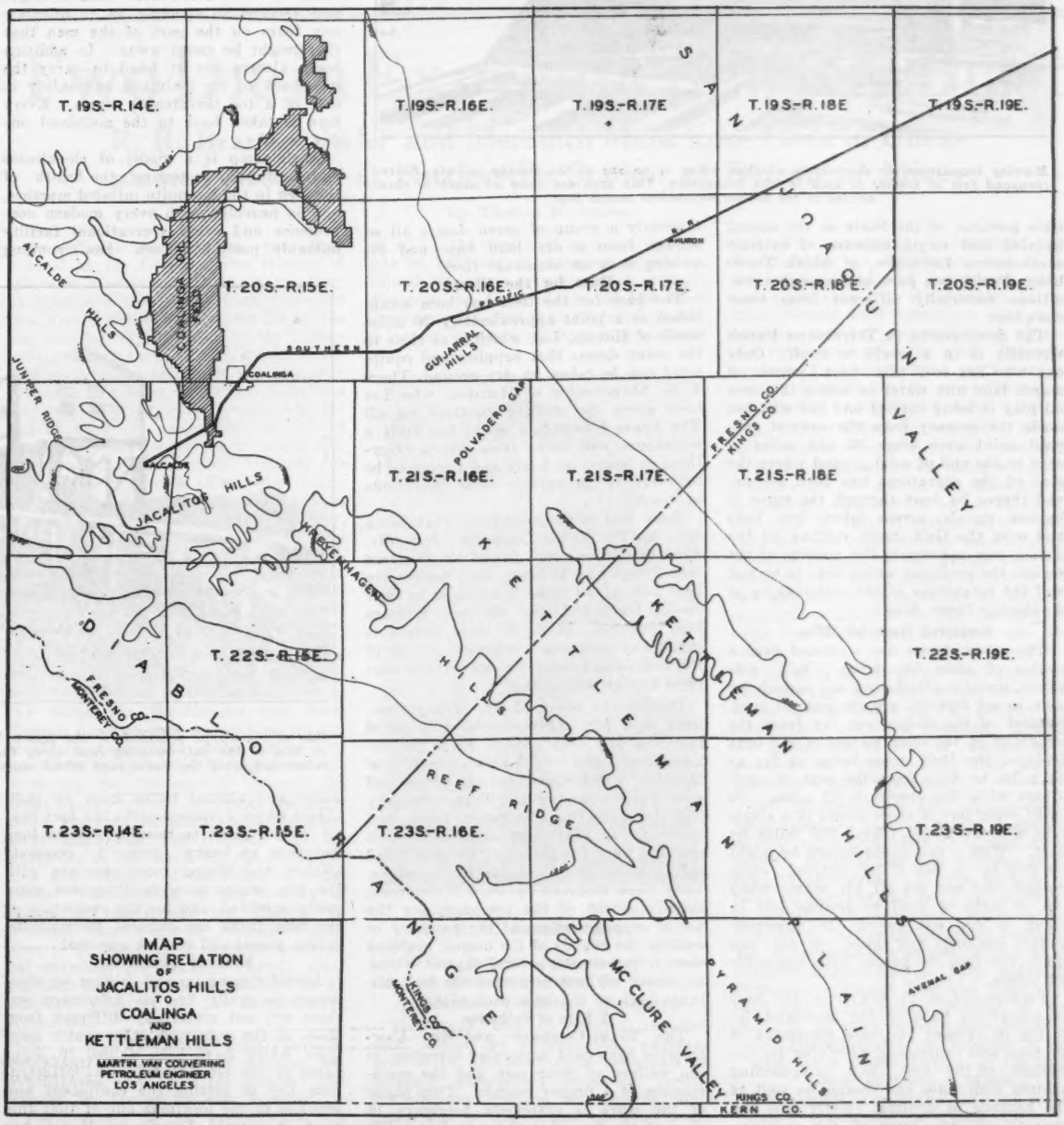


Drilling for Oil in a World to Itself

Fleet of Boats Required to Carry on Development in the Out of the Way Marshlands of Terrebonne Parish, La.

By Neil Williams

HOUSTON, Tex., Dec. 16. — The Texas Company's development on the seven salt domes recently found in the state water beds and marsh lands which comprise the Gulf Coast of Terrebonne Parish, Louisiana, has necessitated the solution of many new problems and has established a procedure and technique of operation quite unlike anything before witnessed on the Gulf Coast.

Southern Louisiana operators long have been accustomed to the difficulties of water and swamp operations but most of this work has been in the more accessible portions of the State so the almost isolated and virgin expanse of extreme southeastern Louisiana, of which Terrebonne Parish is a part, has presented conditions materially different from those elsewhere.

The development in Terrebonne Parish virtually is in a world to itself. Only one who has seen this vast waste of marsh land and water in which this new oil play is being carried on; one who has made the journey from the nearest railroad point over some 30 odd miles of road to the end of solid ground where the seat of the operations has been set up, and thence by boat through the maze of bayous, canals, across lakes, into bays and even the Gulf itself, visiting all the domes, can appreciate the novelty of the region, the problems which have to be met and the magnitude of the undertaking of developing these domes.

Scattered Over 50 Miles

The seven domes are scattered over a radius of some 50 miles. Only tide swept, marshy islands, not dry enough for man to set foot on, are the nearest land. Several of the domes are far from the mainland in the open waters of the bays fronting the Gulf, some being as far as 35 miles by boat from the seat of operations while the closest is 12 miles. To make every one of these domes in a single trip a scout would travel 150 miles by boat. With a fast speed launch he might do this in a day if he started early enough, did not get off his course when out of sight of land or become lost in going in and out among the numerous water channels and lakes, or did not tarry too long to gossip with the drilling crews.

Transportation to and from the base of operations back on the mainland, insuring of prompt and safe movement of supplies and equipment, providing for the welfare of the men, and safeguarding against high tides and storms as well as the hazards of drilling, chiefly fire and burning oil, are some of the problems faced in the development of the seven domes in coastal Terrebonne Parish.

As there is no way possible of getting to any of the operations by land, the first problem of transportation and movement of supplies and equipment had to be solved only by building up a large fleet of boats, necessitating tugs, barges, cruisers, dispatch boats, houseboats, pile drivers and dredges, which, as assembled, present a rather formidable navy. Companies in other parts of south Louisiana have had to carry on their work by boat but none has attempted to develop simultaneously a group of seven domes all so remote from a dry land base and requiring such an elaborate fleet.

Matting foundation for derricks in shallow water or on one of the marshy islands. Forty thousand feet of timber is used in this foundation. This does not show as much of this settles in the almost bottomless marsh bog.

Base for the Fleet

The base for the fleet has been established at a point approximately 20 miles south of Houma, La., which is as close to the seven domes that supplies and equipment can be taken on dry ground. There J. S. Abercrombie of Houston, who has been given the drilling contract on all The Texas Company's work, has built a warehouse and docks from which everything is loaded on boats and barges to be sent out to the various dome operations as needed.

Some idea of the amount of work being done by The Texas Company and Mr. Abercrombie can be gained by the fact that 3 tugs and 15 heavy duty barges are kept busy at all times in addition to their dredge boats and pile drivers, cruisers and launches. Each of these barges is capable of carrying a complete set up of rig, boilers and tanks, or can carry a complete derrick and piling.

Besides the boats of The Texas Company and Mr. Abercrombie, two speed launches are kept on the scene by the Louisiana Land and Exploration Co. of Houston, which discovered the domes and with which company The Texas Company has the operating contract. These two boats are of particular interest as each provides very comfortable sleeping and eating accommodations for four persons. They were designed by Paul T. Seashore, superintendent of the company, for the use of representatives of the company in making the rounds of the domes, enabling them to remain out several days at a time as needed without returning the long distance back to the base each night.

A Life of Isolation

The Texas Company and Mr. Abercrombie have paid particular attention to the welfare of their men and the maintenance of a proper morale. This phase of the work is extremely necessary in view of the fact that the men live a life of isolation, spending 14 days out of 15 without seeing dry land let alone setting foot on it. There is constant danger of high tides and storms along that part of the coast, storms which keep that region in a state of desolation. Other inhabitants of those marsh lands and islands are few and these are families of Malay or Chinese fishermen who live only to themselves in squalor on small houseboats or shacks rudely constructed on piers which usually are swept away at each storm. Only the occasional coming of supply boats and visits of the scouts and officials of the companies furnish any contact with civilization, except what is provided for them.

At the start of the work the men lived in houseboats but now permanent camps are being built at each of the seven domes. One of the camps, typical of all, is shown in an accompanying picture. Like everything else in that region, each of the camps has to be built on piling, resting on a matting foundation on the closest island to the scene of operations. To guard against unusually high tides, the floor level of each camp is at a safe height above any possible wave, and each camp is constructed with such strength and secured so strongly as to alleviate any fears on the part of the men that they might be swept away. In addition boats always are at hand to carry the men back to the mainland and safety in case of a too threatening storm. Every man is taken back to the mainland one day in 15.

Each camp is a model of cleanliness and sanitation, protecting the health of the men in the mosquito infested marshes, and is provided with every modern convenience and every recreational facility humanly possible. Each has running water and shower baths from an individual water system despite the fact that all water must be barged in from long distances at heavy cost. A complete kitchen and dining room compare with the best where such facilities are more easily provided, and for the recreation of the men there are musical instruments, radios, games and reading material.

One of the camps provided for the crews. The island on which this camp is built gives an idea of the only existing land along the Terrebonne Parish coast. This picture was taken just after the water tank which supplies the needs of the camp had toppled over.

Drilling Handicaps

Actual rigging up and drilling on these domes naturally has its handicaps but these are not materially different from those of the numerous other water locations which have been drilled in other parts of the Gulf Coast. The principal item lies in getting the equipment and supplies to the locations but at that this work in coastal Terrebonne Parish has its advantages over inland operations as there need be no delays on account of muddy roads or lack of roads. The waterways are always there and passable by boat.

However, operations on these domes necessarily have been slow, tedious and costly, more so than in most areas, because of the remoteness of some of the operations, the extra precautions taken in setting up to insure stability against coastal storms and high tides, the difficulty of getting fuel, water and mud, and providing safeguards against accidents, chiefly blowouts and fires. Each setup under these conditions is figured to cost at least $14,000, not including tanks, and without a bit being turned. It usually takes at least 30 days to rig up one location.

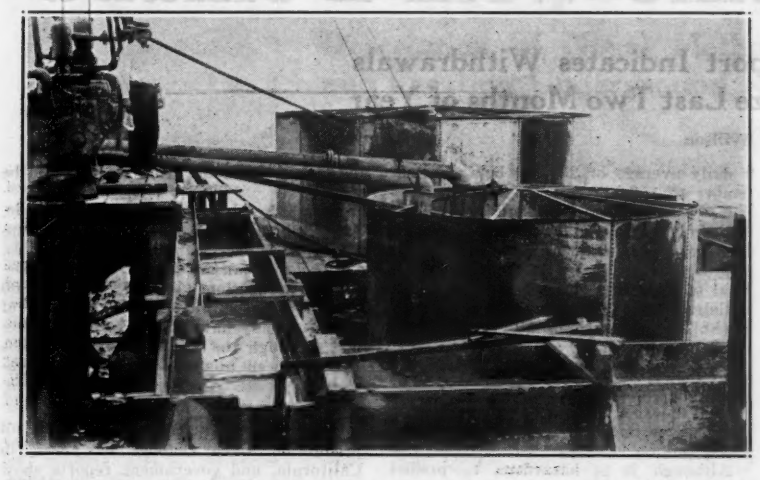
With one exception, the first locations on each of the domes were all in open water, most of them several miles out in the bays and lakes, and each of which necessitated the driving of piling on which to set up the derrick, rig, boilers and tanks. Each of such location requires around 385 piling, each 40 to 60 feet long with from 10 to 11 feet above the normal high tide. On these piling rest the entire setup including a 122-foot steel derrick, the rig, two boilers, a 1,000-bbl. fuel oil tank, a 1,000-bbl. water tank ,a 250-bbl. mud circulating tank and a 500-bbl. mud reserve tank, and at the side the pipe rack.

Marshy Site

The one location so far drilled which was not out in the water was on one of low marshy islands about a mile inland which necessitated the dredging of a canal in order that it might be reached. On this location and others on marsh land or shallow water the setups rest on a matting foundation, consisting of heavy timbers laid flat and built up layer on layer as shown in an accompanying picture. In the foundation for one derrick alone approximately 40,000 feet of timber is used and when allowed to settle provides a fairly substantial base.

For the deeper tests, heavy duty steam driven rigs are used and for the shallower holes light gasoline rigs. A rather unusual arrangement was provided at one of the locations, but one which will prove very adaptable for shallower tests in that district in view of its portable advantages. This was a rig consisting of a drawworks mounted on a tractor, which furnished the power. A picture of this outfit is shown elsewhere in this article. The combined tractor and drawworks can

be rolled easily from the barge deck to the derrick floor and set in place at one move, and, vice versa. When a test is completed it can be rolled readily back on a barge and quickly be set up on another location without tearing down.



Method of conserving mud for drilling operations showing how mud is collected from under the derrick floor and flowed back into the circulating mud tank. R. R. Hooks, superintendent for The Texas Company in Terrebonne Parish, shown at left.

No Mud Near

Providing of a supply of mud for all drilling operations has proved a difficult and costly proposition. There is no mud near any of the domes and all has to be barged from a central mud mixing plant which has been built back on the mainland near where the base of operations has been established. This necessitates barging mud as far as 35 miles in some cases. Mixing the mud and barging it to the various locations is estimated to cost at the rate of $5 a barrel, a rather expensive drilling item.

Drilling mud at this cost and trouble requires that not a drop more than necessary be wasted and to eliminate any waste in drilling each derrick floor has ben provided with a leakproof false flooring under the main floor into which all mud returned from the hole and all slop over is collected and flowed through a specially constructed slush trough back into the circulating tank, as shown in an accompanying picture.

A blowout, with the possibility of a fire and the spreading of burning oil over the water is a hazard which these operators have sought to guard against because of the difficulty which would be experienced in handling such a situation in so isolated a place. As the first precaution it has been necessary to make use of the best known methods of drilling, and, in addition an almost certain safeguard has been provided by these operators who have devised a method by which it is possible to admit water into the various strings of casing to extinguish any fire which might start.

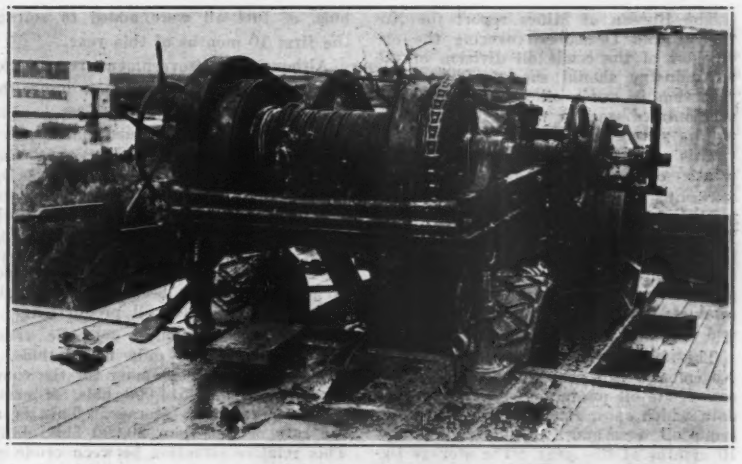
Not only has the actual drilling of these domes entailed a new procedure with novel problems faced but the geophysical exploration for the domes by the Louisiana Land & Exploration Co. in the first place brought into play a different mode of exploration than that generally practiced, this being necessitated by work under waters of such large extent.

Novel Exploration Work

This exploration of the Louisiana Land & Exploration Co., which was done by the Geophysical Research Co. perhaps offered a little more romance in many ways than the actual development of the domes by The Texas Company in view of the fact that the geophysical crews were forerunners in a part of the coast never before visited in search of domes or oil.

Their accomplishments are made more remarkable because the country was entirely virgin and they had no background on which to start their exploration; there were no maps let alone known existing survey lines on which they could rely to guide them or by which they could check their movements; and last but not least, there was no solid ground on which they could do their shooting or set up their instruments.

The first undertaking of the Louisiana Land & Exploration Co. was to provide maps. Very few maps or charts ever had been made of that part of the coast and what had been made were extremely ancient, inaccurate and inadequate because of the constantly shifting land lines and changing islands. The nature of the district with its many irregular waterways, lakes, bays, bayous and canals made it almost impossible to make any kind of a satisfactory chart from the surface level. However, with the aid of the airplane, the Louisiana company made what might be considered the first map of coastal Terrebonne Parish. By arrangements with Edgar Tobin of San Antonio, virtually all of that part of southern Louisiana was photographed from the air and, from the pieced mosaic, tracings and maps were compiled which then were used as a foundation for land surveys in order to set up a network of township and section lines, consistent with the old records of the land office.



Draw works mounted on tractor used to drill one of the shallow tests.

Shooting Operations

With maps provided it was necessary to get togehter a fleet of boats, both operating and shooting boats and houseboats as quarters for the shooting crews. Shooting boats obtained had to be capable of high speed and suitable for shallow waters of lakes and bayous and for work in the more open bays and the Gulf itself. Some of the boats were hired but most of the operating boats had to be specially built, this being done at all shipyards between Orange, Tex., and Houma, La.

A shooting crew for this kind of work usually consisted of the chief of party, a chief observer, three recorders, a dynamite shooter and his helpers and a boat-

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Two Die in Experimental Rig Blast

R. R. Brandenthaler and Meredith Miles Lose Lives in Unexplained Accident at Bartlesville Station of Bureau of Mines

By Thomas F. Smiley

An official investigation has been ordered by the United States Bureau of Mines in Washington, D. C., in an effort to determine the cause of an explosion last Friday evening, December 13, at the Bartlesville, Okla., station of the bureau which caused the death of R. R. Brandenthaler, senior petroleum engineer, and Meredith A. Miles, assistant petroleum engineer. The explosion occurred in the experimental oil production rig in the installation and operation of which Mr. Brandenthaler had worked tirelessly for more than two years. Two other members of the Bartlesville station force, Gustave Wade, dynamometer engineer, and Robert E. Holt, steam-fitter, suffered injuries which sent them to a hospital, but which are not regarded as serious. Much of the rig was ruined by the explosion or by the fire which immediately followed it.

N. A. C. Smith, superintendent of the Bartlesville station, reported the accident by telephone to the headquarters of the bureau in Washington and Scott Turner, director, said a searching inquiry would be made. The probe will be conducted by a committee of engineers representing the Bureau of Mines, the American Petroleum Institute, the American Institute of Mining and Metallurgical Engineers, the Natural Gas department of the American Gas Association and officials of the State of Oklahoma. The director of the Bureau of Mines has designated Dr. Charles E. Munroe, chief engineer explosives division, O. P. Hood, chief engineer mechanical division and R. A. Cattell, chief engineer helium division, to serve in an advisory capacity to the investigating committee.

H. C. Fowler, acting chief engineer, petroleum and natural gas division, left Washington soon after the accident and arrived in Bartlesville last Monday.

Construction of the experimental rig in which the explosion occurred was begun in 1927 and it contained equipment valued at many thousands of dollars. Beneath the floor of the 81-foot steel derrick was a steel tank 60 feet long and 6 feet in diameter set in a concrete-lined pit 15 feet deep and wide enough to permit free movement around the tank.

R. R. Brandenthaler

Subsurface Conditions Simulated

This tank was to contain screened sand which for experimental purposes was to be saturated with petroleum of carefully ascertained properties, including viscosity, gravity, temperature, solubility, gas in the oil and chemical analysis. The quantity of oil introduced into the tank for an experiment was to be measured and the tank thus would represent a drainage area of calculated extent under certain field conditions. Gas compressors provided the equivalent of gas and rock pressure in the sand. Intimate mixture of oil and natural gas for introduction into the "well" was effected by an absorber on the derrick floor.

A vertical lift of 88 feet could be obtained above the oil reservoir. Gas was to be dissolved in the oil under a known pressure by the use of the absorber, a cylindrical container 24 inches in diameter and 26 feet, 6 inches high. This absorber was connected by suitable high pressure fittings to oil pumps and gas compressors. By counter-currents of oil and gas within the absorber at suitable pressures solution of the gas was effected until the desired gas-oil ratio was obtained.

The work of installing the equipment had recently been completed and the whole system tested at 250 pounds per square inch hydraulic pressure. During the initial run to test the equipment a pressure of approximately 150 pounds per square inch was used.

Mr. Brandenthaler and his associates were about to begin a series of experiments, including studies in natural flow, gas-lift, repressuring and various problems in production. It was expected a mass of fundamental facts for guidance in actual field operations would be accumulated. Oil men generally regarded Mr. Brandenthaler's unique project as of immense importance to the industry. Petroleum engineers from the Mid-Continent and Joplin-Miami sections of the A. I. M. E. were to have been guests of Mr. Brandenthaler on Tuesday of this week at a demonstration of the plant.

Cause of Blast a Mystery

The work of charging the tank for ex-

(Continued on Page 149)

Crude Supply in Line With Demand

Latest Bureau of Mines Report Indicates Withdrawals From Storage Will Materialize Last Two Months of Year

By C. O. Willson

The Bureau of Mines report for November and December covering the operations of the crude oil division of the oil industry should show a substantial reduction in crude oil inventories which accumulated steadily the first 10 months of this year.

This prediction regarding the last two months of the year is based on the government's report for October which was published in the December 12 issue of The Oil and Gas Journal, Page 110. This October report has been incorporated in the accompanying table which gives comparative data on crude oil and refined products for the first 10 months of 1929 and 1928.

This latest report shows that up to November 1 this year was a period of excess crude oil production reflected in the data which show that 52,218,000 bbls. of crude oil were added to storage the first 10 months of this year. The storage figure includes some California crude oil. In addition to the crude oil, 14,892,000 bbls. of fuel oil were added to storage the first 10 months of this year.

Although the government reports for the first 10 months show an unhealthy situation in regard to crude oil production and demand, the curtailment measures which have been taken since that time assure that the November and December reports of the Government will reflect an improved situation with withdrawals on accumulated inventories. This latter development is, of course, based on the assumption that the slow-up in crude oil demand has not been as great as the curtailment in crude oil production.

In October, although domestic crude oil production was only 67,000 bbls. a day less than in September for the country as a whole, 514,000 bbls. of crude oil were added to storage. This is at the rate of less than 20,000 bbls. daily. This relative situation between crude oil demand and supply was aided by the fact that the crude oil imports dropped from a daily average of 231,700 bbls. in September to 186,000 bbls. in October.

East of California

Even in October the crude oil situation east of California showed marked improvement indicated in the fact that a total of 2,160,000 bbls. of crude oil were withdrawn from storage, the largest withdrawal in that area in 2½ years.

The total increase in crude oil storage of 514,000 bbls. materialized because crude oil production in California continued to exceed the demand and 2,674,000 bbls. were added to storage at West Coast points.

Although it is hazardous to predict just what the relative situation between crude oil supply and demand will be for the last two months of this year because the demand figure is not known, it seems reasonable to conclude that the voluntary reduction in domestic production will exceed any possible decline in consumption. If the demand is maintained at a high level as it has in past years, then the reduction in crude oil inventories should be heavy.

From the domestic production angle, according to estimates, the crude oil supply in November was about 200,000 bbls. a day less than in October and the December production will be around 225,000 bbls. less than in October. Imports of crude oil may have increased since October, although the trend in recent months has not been upward, due to the extension in South American refining facilities.

The bulk of the reduction in crude oil production since October has been in California, and government reports show that the bulk of the excess supply has been coming from that State since early in the year. Of the 52,218,000 bbls. added to storage from January 1 to October 31, inclusive, 36,147,000 bbls., or 70 per cent, were added in California. The situation east of California was improving before the new curtailment meas-

(Continued on Page 146)

CRUDE OIL AND REFINERY PRODUCTS SITUATION SUMMARIZED

(Bureau of Mines Reports—First 10 months 1929 and 1928)

SUPPLY AND DEMAND—CRUDE OIL (Bbls.)

First 10 months	Total supply	Total demand*	Excess		Domestic production	Imports	Domestic demand*	Exports	Stocks Oct. 31
			Supply	Pct.					
1929	915,596,000	863,160,000	52,218,000	6.04	847,103,000	68,493,000	841,455,000	21,705,000	537,619,000
1928	811,910,000	789,404,000	22,506,000	2.8	745,858,000	66,052,000	773,658,000	15,746,000	488,349,000
Increase	103,686,000	73,756,000			101,245,000	2,441,000	67,797,000	5,959,000	49,270,000
Increase	12.3%	9.3%			13.5%	3.7%	8.8%	37.8%	10.1%

*Derived from government data for comparative purposes. Includes some California fuel oil.

SUPPLY AND DEMAND—REFINERY PRODUCTS—GASOLINE (Bbls.)

First 10 months	Total supply	Total demand	Excess		Domestic production	Imports	Domestic demand	Exports	Stocks Oct. 31
			Supply	Pct.					
1929	366,926,000	364,950,000	1,976,000	.3%	359,758,000	7,168,000	313,800,000	51,150,000	35,042,000
1928	313,520,000	320,401,000	*5,881,000	*1.8%	309,946,000	3,574,000	275,972,000	44,429,000	26,435,000
Increase	53,406,000	44,549,000			49,812,000	3,594,000	37,828,000	6,721,000	8,607,000
Increase	17%	13.9%			16%	100%	13.7%	15.1%	32.5%
KEROSENE									
1929	47,631,000	47,767,000	*136,000	*.3%	47,477,000	154,000	30,750,000	17,017,000	8,865,000
1928	49,832,000	48,914,000	918,000	1.8%	49,650,000	182,000	30,207,000	18,707,000	8,633,000
Increase	†2,201,000	†1,147,000			†2,173,000	†28,000	543,000	†1,690,000	32,000
Increase	†4.4%	†2.3%			†4.3%	†15.4%	1.8%	†9%	.3%
LUBRICATING OIL									
1929	29,073,000	29,392,000	*319,000	*.1%	29,039,000	34,000	19,930,000	9,462,000	8,021,000
1928	28,927,000	28,957,000	*30,000	*.1%	28,917,000	10,000	19,675,000	9,282,000	7,830,000
Increase	146,000	435,000			122,000	24,000	255,000	180,000	191,000
Increase	.5%	1.5%			4.2%	240%	1.3%	2%	2.4%
FUEL AND GAS OIL									
1929	392,062,000	377,170,000	14,892,000	3.8%	375,499,000	16,563,000	345,589,000	31,581,000	149,793,000
1928	360,084,000	351,201,000	8,883,100	2.5%	353,873,000	6,211,000	313,362,000	37,839,000	136,624,000
Increase	31,978,000	25,969,000			21,626,000	10,352,000	32,227,000	†6,258,000	13,169,000
Increase	8.8%	7.4%			6.1%	166%	10.3%	†16.6%	9.6%
PETROLEUM WAX (Lbs.)									
1929	564,248,000	485,496,000	78,752,000	16.2%	530,195,000	34,053,000	220,049,000	265,449,000	189,094,000
1928	538,402,000	596,226,000	*57,824,000	*10.8%	518,794,000	19,608,000	255,299,000	340,927,000	92,814,000
Increase	25,846,000	†110,730,000			11,401,000	14,445,000	†35,250,000	†75,478,000	96,280,000
Increase	4.8%	†18.6%			2%	7.4%	†13.8%	†22.1%	104%

*Excess demand. †Decrease. Note—Total supply equals domestic production plus imports. Total demand equals domestic demand plus exports. Data on demand for refined products are based on refinery shipments.

CRUDE OIL RUNS TO STILLS AND TOTAL ALL OILS (Bbls.)

First 10 months	Total crude to stills	Domestic crude to stills	Foreign crude to stills	Natural gasoline blended at refineries	Gasoline recovery crude oil†	Total supply all oils*	Total demand all oils*	Stocks all oils Oct. 31*
1929	825,984,000	761,348,000	64,636,000	37,549,000	43.55%	985,522,000	919,271,000	680,790,000
1928	756,566,000	692,163,000	64,403,000	28,744,000	40.96	858,921,000	829,147,000	613,958,000
Increase..	69,418,000	69,185,000	233,000	8,805,000	2.59	126,601,000	90,124,000	66,832,000
Increase	9.2%	10%	3.6%	30.6%		24.7%	10.8%	10.9%

*Total all oils includes crude oil, refined products, natural gasoline and benzol. †Includes natural gasoline blended at refineries.

New Technique in Developing Water

Description of Novel Method of Mining for Water Sands and Creating Underground Reservoirs for Storage Purposes

By L. G. E. Bignell
Petroleum Engineering Editor

Originality in any work is always worthy of credit and when a man is capable of developing new methods in such an old industry as digging water wells it would seem that his originality is worthy of record, and E. M. Carter of Austin, Tex., and elsewhere in the Mid-Continent area, has certainly introduced some very novel and unique details into his work in developing large water supplies for gasoline plants, refineries, drilling operations, oil field camps and other places in the oil industry.

Mr. Carter, who styles himself as an engineer in hydrology and subsurface hydraulics, has to his credit some 116 wells of various kinds that he has dug and developed for various leading producers, gasoline manufacturers and refiners, some of them in places where inadequate water supplies were seriously hampering activities until his methods were introduced.

E. M. Carter, M. E., graduate of New Mexico School of Mines in his digging clothes, with well and equipment in background.

To start at the beginning it will perhaps be best to follow Mr. Carter through his exploration work when he is outlining the possible areas in which water is to be found in subterranean water courses and pools, and then describe his methods of digging and completing wells.

Many things that do not seem to have any special significance to the layman are guides for Mr. Carter in his work of mapping out water courses, and he brings into use the location of prairie dog towns, cottonwood trees and willows for this purpose.

Indications of Water

Through 11 years of experience in this kind of work it has been learned by Mr. Carter that willows will show the presence of underground water at depths of from 10 to 25 feet below the surface, and the cottonwoods will indicate underground waters at depths of from 25 to 50 feet, so groves of these trees are used as indicators of the shallower water courses.

The humble prairie dog is called into service when water at depths below 50 feet is desired and Mr. Carter has found that by flying over the area to be explored it is possible to trace an underground water system by noting prairie dog colonies, just as definitely as if the rivulets, brooks, creeks, and rivers lay on the surface.

It has been noted that the prairie dogs will group their holes above each of these type streams in about the order named that is a small colony will gather together above a small size underground stream and as the amount of available underground water increases the number of animals and their burrows will proportionately increase, so if the position and size of the colonies is noted and then the different groups of "towns" are connected up by a system of lines from one to the other it will be found that a well-defined water system has been outlined.

This condition is easily observed from the air and the accompanying sketch (Figure 1) shows something of the general character of a map developed by this process. It is admitted, that prairie dogs are not always available for data of this kind, but in Oklahoma, West Texas, and New Mexico where Mr. Carter has done the major portion of his work they are in sufficient quantities to make this means of exploration a big aid in his work.

Figure 1—Diagrammatical plan of underground water system as indicated by position of prairie dog holes.

Mr. Carter states that he has sunk shafts and driven tunnels in areas where prairie dogs live and has found that, contrary to the statements of naturalists, the prairie dog does not hibernate in the generally accepted meaning of that word. It is quite true that they will disappear into their holes for the winter months, but when they appear at the surface in the spring it is noted that they are almost always quite sleek and fat. This is accounted for by the fact that these holes are dug to water, and dens are hollowed out near the water level where a good supply of grass and other forms of vegetation is stored and used during the colder months.

Mr. Carter has actually dug into such store rooms and water holes at depth of 284 feet and found evidence that as the surface of the underground water had receded during the drier months the prairie dog had deepened his little well so that it was always filled with fresh water.

Ground Contours

Mr. Carter has developed other quite definite means of locating drainage systems so that he does not have to rely entirely upon the different types of trees and animals for his reconnaissance work. He finds that underground streams will run parallel to surface drainage systems and by observing ground contour he can determine quite clearly the general outline of underground water courses.

By walking out these surface indications it is possible to make note of faults or other distinct changes in formations that would have their influence on underground flows of water. Faults will divert underground streams because they act as dams and the water will flow along the upstream side of the fault generally toward some surface stream, and Mr. Carter has found that where the fault crosses the creek or river there will be numerous live springs in the bottom of that stream fed by water coming up from the underground water courses.

In locating the site for a well or shaft as it might more properly be termed, Mr. Carter always takes into account the fact that his tunnels to be driven from the bottom of the shaft must cross the underground water courses at right angles. That is if the indications are that the underground flow of water is running from east to west the tunnels must be driven in approximately north-south lines.

Having selected a site for the proposed well Mr. Carter next sinks 2-inch test holes or perforated driven pipes down into the water sands in a line across the underground water course or group of channels and in this way the determination of the thickness and location of the water sands is made possible.

Next a larger hole is drilled down to the water sand and a centrifugal pump is lowered into it and the water pumped out to just as low a level as possible and held at that level while each of the several smaller drill holes is tested to find the level at which the water stands in them. (Figure 2.)

Direction and Rate of Flow

These several water levels very definitely indicate two things, the underground water gradient and the direction of flow of the water across the underground channel. The direction and rate of flow is established by the introduction of methylene blue in the wells on one side of the large water well and venetian red into the wells on the other side.

These two colored waters, blue and red will show up in the large well at varying intervals, or will not show up at all, depending upon the position of the hole into which they are introduced with regard to direction and rate of flow.

To illustrate, if a series of small holes has been drilled in a line east and west of the large bored hole that is to be pumped for test purposes, and the blue dye is introduced into the east wells and the red stain into the west wells, and the water gradient is from east to west, the blue dye will show up in the pumped well but the red dye being on the down side of the water table will not put in an appearance until later when the east side of the water table has been lowered sufficiently to permit the rate of flow from the west side to bring the red dye into the hole.

Partly completed caisson in foreground with another that is sinking in dug well on Phillips Petroleum Co. property in Pampa, Texas, district.

These holes are usually spaced 100 feet apart, and it is therefore possible by regulating the intervals between introduction of dyes in each well in the series to get a very accurate timing of the velocity and direction of the current underground.

These facts being established the actual work of digging the well or shaft at the site of the larger bore hole is begun, and the underground tunnels, if they are to be used are located definitely

(Continued on Page 163)

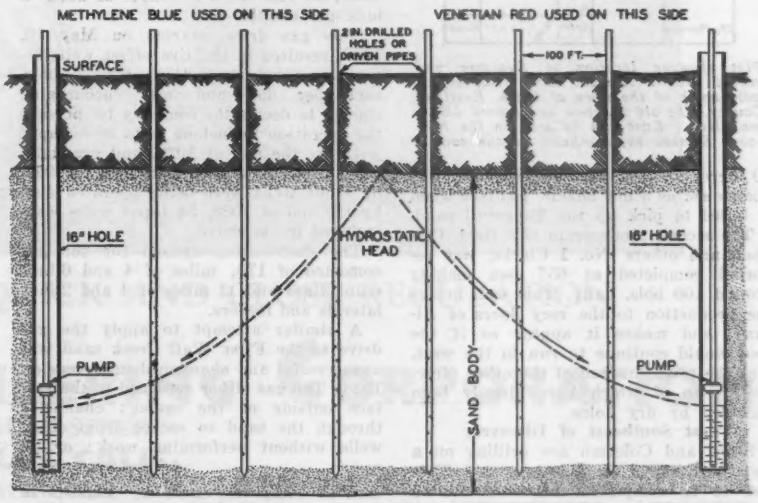


Figure 2—Showing method employed in determining the hydrostatic head of fluid in sand body and spacing of wells to drain area.

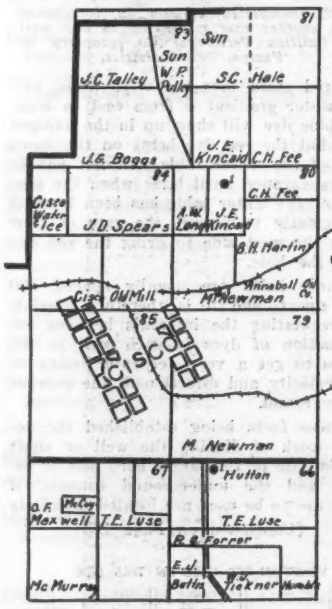
Tests Now Nearing Albany and Cisco

Clarke Pool Well but Few Hundred Feet From Shackelford County Townsite. Test Stone's Throw From Cisco Doorstep

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Dec. 16.—With the completion of George Callihan and others' No. 1 Clarke estate, in the NW, Section 2, Blind Asylum lands, Shackelford County, approximately 750 feet west of the discovery well of this new producing area which lies but a few hundred feet from Albany homes, it looks as if the Clarke Pool would eventually be extended right into the town, and town lot drilling would become a certainty, for the railroad commission and city council will no doubt grant permission to drill on lots so situated that drilling will not endanger any residences or commercial buildings.

The discovery well of this pool, Hart and Gist's No. 1 Clarke, 870 feet from the north and 570 feet from the west of the NE, Section 2, was completed about a month ago when it topped the upper Tannehill sand at 680 feet and was shut down producing around 85 bbls. daily from a total depth of 683 feet. An east offset was drilled by Hart and Gist but it proved a dry hole. Total depth of that test was 888 feet. A north offset on the Deats farm, 750 feet from the south and 150 feet from the west line of the west



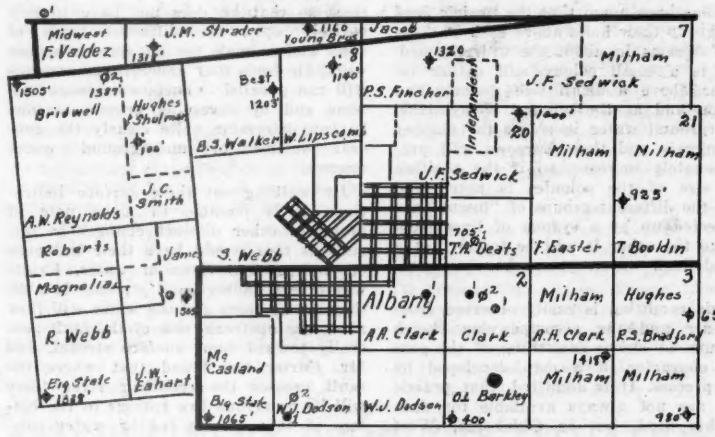
Plat showing location of Bearman and others' No. 1 Kincaid, new discovery a mile north of the town of Cisco, Eastland County. The old Mayhew and others' (Hutton) No. 1 Luse can be seen in the NW cor., Section 66, southeast of the town.

40 acres of the SE, Section 20, was abandoned as a dry hole at 705 feet when it failed to pick up the Tannehill sand.

The second producer in this field, Callihan and others' No. 1 Clarke, was reported completed at 657 feet making around 100 bbls. daily. This well brings the production to the very doors of Albany, and makes it appear as if the pool would continue to run to the west, into the town, instead of the other directions, two of which have already been excluded by dry holes.

Test Southeast of Discovery

Stiles and Coleman are drilling on a test southeast of the discovery well. This test to be completed this week should show the failure or possibility of the acreage in that direction from the discovery. In case it is a failure, the west and southwest will be the only directions in which the pool can be extended, and the next few weeks may possibly see spudders and pump jacks and battery tanks sitting in the immediate backyards of some of the Albany domiciles.



Plat showing town of Albany in relation to the two producers in the Clarke Field. It may be noted that the town is entirely surrounded by abandoned wells.

The accompanying sketch shows the locations of the two producers east of the town, and also the many dry holes drilled all around the town in every direction. Van Zandt and Eldridge's small well of 9 bbls. is also shown in the southeastern quarter of the Dodson farm, about a mile south of the town. This well brought production closer to Albany from the south and west sides, but a north offset by the owners of the discovery on that farm was abandoned as dry at 710 feet, seemingly cutting off production between the town and the first well they drilled. This well had a showing of oil from 676-80 feet, but of insufficient quantity to be produced, consequently the hole was plugged. The first well they drilled is located 150 feet from the south and west lines of the SE, Section 1; the top of the pay was found at 676 feet and total depth is 682 feet. Initial production was given as 9 bbls. per day. The well is now cased in due to lack of storage or a pipe line connection.

As the sands in this area are rather erratic, the dry hole between the discovery well on the Dodson farm and Albany may not prevent the linking production with that found on the east of the town, and production may possibly be extended directly through the townsite, proving that an oil pool lies directly under the city. Other tests on the west side of Section 2 and the east side of Section 1 will prove whether the two areas are to be linked. It is possible a test will also be drilled on the Webb farm just west of town to see if production may be extended in that direction.

Cook Pool

The old Moran and Sedwick Pools, 8 and 13 miles southeast of Albany, have

(Continued on Page 118)

Salt Creek Field Recovery Methods

Value of Various Gases for Drive Purposes Shown but Use of Gas Lift Has Not Contributed to Production Increase

By F. M. Cole
Assistant Petroleum Engineer, United States Geological Survey, Salt Creek Field*

The producing sands of the area under consideration are known as the First Wall Creek, Second Wall Creek, Third Wall Creek and Frontier Shale, the first two sands producing having contributed approximately 98.4 per cent of the total production up to January 1, 1929, and are therefore the ones that are given most consideration in the report.

The gas drive was started on the Second Wall Creek sand by the Midwest Refining Co. when the rock pressure was about 40 pounds per square inch, and the daily average production of the wells about 34 bbls. with a decline of about 2 bbls. per month.

This gas drive, started on May 10, 1926, resulted in the five offset wells increasing their production about 5 bbls. each per day and was encouraging enough to decide the company to increase the operation to include eight more input wells by the end of 1926, and gradually take in others until, by the end of 1927, 32 input wells were being operated and, by the end of 1928, 54 input wells were included in the drive.

The distributing system for the gas consisted of 17¾ miles of 4 and 6-inch trunk lines and 11 miles of 4 and 2-inch laterals and feeders.

A similar attempt to apply the gas drive to the First Wall Creek sand was unsuccessful and abandoned in December, 1928. The gas either returned to the surface outside of the casing; channeled through the sand to escape from offset wells without performing work; or, in some cases, wells would not take gas even at 400 pounds pressure.

Value of Various Gases

The relative value of various gases for drive purposes was investigated by A. W. Buell for the Midwest Refining Co. and his conclusions are recorded in the table below, the results being secured with 50 pounds as compared with atmospheric pressure; viscosity is Saybolt; volume is that of the oil when saturated with the gas at 50 pounds; and solubility refers to the quantity of gas dissolved in a barrel of oil at the pressure mentioned:

Gas, kind—	Oil viscosity— % dec.	Oil viscosity— % inc.	Oil volume— % inc.	Oil volume— % dec.	Solubility (cu. ft. per bbl.)
Air	2.6			2.4	2.59
Flue gas		4.3		3.3	3.45
Carbon dioxide	0.5			1.5	22.75
Fuel gas	10.0			0.5	13.25
Weathering plant vapor	40.3		12.0		62.00

Buell points out that gases are beneficial in direct proportion to the volume absorbed in crude oil. Their effect on the oil and the presence or absence of the effects after pressure is released are also to be considered. Some gases have a permanent beneficial effect; others act in the reverse way. Considering all factors, he values each gas in the order above, the best being last. It is unfortunate the supply of weathering plant vapor is comparatively small.

The rock pressure in the Second sand is now below 20 pounds per square inch and it is therefore evident that gravity is associated with the down-dip movement. The effect of gravity would doubtless be felt now without the gas drive but it is not likely gravity alone would have caused the production increase. More likely gravity alone would serve only to retard decline.

Gas lift has not contributed to the increase mentioned in this report, but the gas lift method of production has been given attention since 1927 but has not proved adaptable to current conditions.

Because of lack of sufficient gas supply the general application of the gas lift to wells in the Salt Creek Field has not been possible. It has even been found necessary to suspend the gas drive operations during the winter months in order to satisfy fuel demands and no additional source of supply has yet been found.

Doubtless many of the oil string formation shutoffs are no longer perfect, the packing between the oil-to-water string bradenheads is deteriorated, and high pressure intake gas would escape to the surface outside of the well without performing work.

The tests conducted in the Salt Creek Field on gas lift operations were too few and of such a nature that it is unsafe to attempt to draw conclusions as to the engineering aspects of the method but it is not likely that any further test of gas lift will be made in the field.

Clean-Out Work

The importance of clean-out work during gas drive is even greater than under ordinary operating conditions. It is obvious that pumping wells must be in

(Continued on Page 148)

*Abstracts from a paper prepared by Mr. Cole on "Improved Recovery Methods in Salt Creek Oil Field, Natrona County, Wyoming." Read before Rocky Mountain district, A.P.I. Division of Development and Production Engineering, Casper, Wyo.

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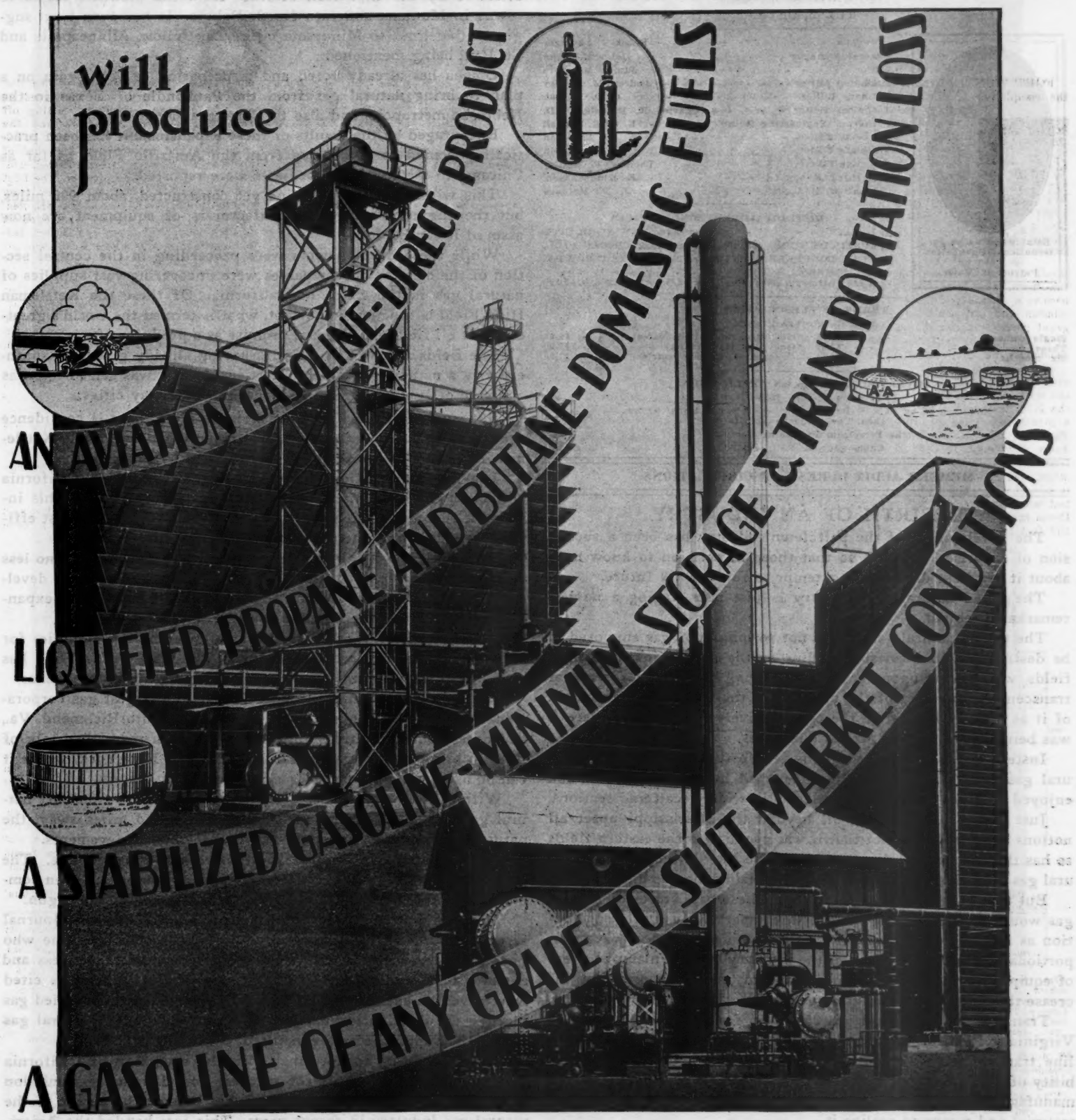

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Christmas Greetings
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Coke Residue in Cracking Operation

Yields Dependent on Quality of Charging Stock and Operating Method. Explains Forms of Recracking

By A. N. Sachanen and M. D. Tilicheyev*

The modern cracking unit must as a rule meet the following fundamental requirements: It must produce a high yield in cracked gasoline and a minimum of coke, the latter being essential to assure a more or less continuous cycle.

Practically, however, not more than 30 per cent of cracked gasoline, and this only when cracking distillates, can be obtained by a single cracking operation. A further increase in the yield of cracked gasoline in one cracking operation is, as a rule, of no advantage, as it is accompanied by a heavy coke formation. Therefore, in refinery practice a yield of cracked gasoline exceeding 20 to 30 per cent is attained by a so-called repeated cracking. To get a correct understanding of the aforesaid it is essential to analyse the mechanism of the coke formation.

In the cracking process the coke, as will be shown below, is formed mainly from aromatic hydrocarbons which are primarily condensed during the cracking, according to the scheme benzene, diphenyl, naphthalene, dinaphthyl, etc. On further cracking, the newly formed high boiling aromatic hydrocarbons are subjected to a further condensation, forming heavy tar-like products which are finally converted into coke. Therefore, if cracked gasoline is the product of the primary destruction of high molecular weight hydrocarbons, coke is the last stage of a number of consecutive condensation reactions.

Therefore, cracked gasoline is formed during the first stage of cracking of the greater majority of crude oil products, while no coke is formed. Simultaneously an accumulation of heavier condensation products takes place in the cracked residue which is indicated by the increase in the specific gravity of the residue. As soon as the yield in cracked gasoline reaches a certain magnitude the formation of coke sets in, increasing rapidly in the course of cracking.

These interrelations are seen plainly in the cracking of spindle oil distillate from Groznuii asphalt base crude oil and of paraffin distillate from Groznuii mixed base crude oil. (See table 1).

No coke is formed with a yield of cracked gasoline equal to 20 per cent by weight, as can be seen from the above table, while the specific gravity of the cracked residues increases considerably.

The coke formation sets in only after approximately 30 per cent of cracked gasoline is formed, and a specific gravity of the cracked residue exceeds one.

Coke formation in the cracking operation sets in earlier for heavy and resinous crude oils and fuel oils. Thus for example on cracking a Russian crude oil (Kaluga crude) of 0.957. specific gravity, the following results were obtained:

Yield in cracked gasoline in % by weight	Yield in coke in % by weight
6.1	0.07
11.6	0.11
21.0	1.06
25.6	4.92

As can be seen the coke formation sets in earlier when cracking heavy crudes and fuel oils than in the case of distillates. Thus in most of the distillates coke formation begins when approximately 25 to 30 per cent of cracked gasoline is obtained, while for heavy crudes and fuel oils a noticeable coke formation is observed in most cases as soon as 10 to 15 per cent of cracked gasoline has been formed.

A deeper cracking causes very excessive coke formation. According to the above figures the best time to discontinue the first cracking operation is when condensation products are formed only and coke is still absent. In such a case the primary cracking effects different yields of cracked gasoline depending on the nature of the crude oil product cracked, the average for distillates being 25 to 30 per cent and for heavy crudes and fuel oils 10 to 15 per cent. To increase the yield of cracked gasoline still further, the product obtained after the first cracking must be distilled and the heavy residue which is inclined to produce coke, must be separated as well as the cracked gasoline. The intermediate fraction so obtained with a temperature range of 200 to 350 degrees Centigrade is subjected to a second cracking operation, etc.

High yields in cracked gasoline can be obtained by this method without any appreciable formation of coke, which is absolutely impossible with only one cracking.

In refinery practice the heavy cracked residue is separated in the expansion chamber, and the reflux collected in the lower part of the rectification column is used for a second cracking. This is the basis of recracking.

Gas Oil Operation

This process, its kinetics and the final results were thoroughly investigated by the authors on a gas oil from one of the Russian crudes (Emba crude).

This gas oil had a specific gravity of 0.872, viscosity E_{20} of 2.23 and was composed of the following fractions:

Below 225°C	0.9%	Specific gravity
225-300°C	33.0%	0.855
300-350°C	33.2%	0.871
Above 350°C	30.5%	0.890
Loss	2.4%	

The following procedure was adopted for the investigation of cracking of Emba gas oil. The product of the first cracking was separated into the following fractions: Below 200 degrees Centigrade, 200 to 300 degrees Centigrade, 300 to 350 degrees Centigrade, and the residue above 350 degrees Centigrade. The fractions 200 to 300 degrees Centigrade and that of 300 to 350 degrees Centigrade were combined and subjected to a second cracking operation, etc. The results of six consecutive cracking operations with Emba gas oil are given in Table 2.

Table 3 gives the yields in cracked products obtained after six consecutive cracking operations calculated on the original gas oil of specific gravity 0.872.

The recracking of Emba gas oil discloses very clearly the following phenomena:

The decomposition velocity of the cracked gas oil (the 200-350 degrees Centigrade fraction) decreases with the increase in cracking; each succeeding recracking operation decreases the speed of decomposition.

The speed of formation of cracked gasoline when compared with the first experiment decreases for the five succeeding recracking operations as follows: on the second recracking 1.7 times, on the third 3.2 times, on the fourth 5.7 times, on the fifth 21 times and on the sixth 14 times.

Therefore the kinetics of the cracked products vary greatly from that of straightrun, undecomposed products. The latter are cracked at a much higher speed than the first ones.

Cracked Gases

The relative amount of cracked gases increases with the increase in cracking: Each succeeding cracking operation yields relatively more gases than the preceding operation. Although 180 liters of gas were formed per kilogram of gasoline in the single cracking, 1,500 liters were obtained per kilogram of cracked gasoline in the sixth cracking operation.

The specific gravity of cracked gasoline as well as of other fractions and the residue increases with increase in cracking. The 300-350 degrees Centigrade fraction has a specific gravity above one after the fourth recycling.

In accordance with the above, the specific gravity of the crude oil product when cracked first decreases after the cracking operation, while the specific gravity of the oil products begins to rise on the following recyclings, which indicates the prevalence of the condensation processes above those of decomposition. Thus for example the specific gravity of Emba gas oil decreases after the first and second recracking, while beginning with the third recracking its specific gravity begins to rise after the cracking as seen from Table 4.

All these interrelations are derived from the chemistry of the cracking process explained by the authors. A light cracking of straightrun products consists in the comparatively rapid decomposition of paraffin hydrocarbons and the splitting up of long side chains from hydroaromatic and aromatic hydrocarbons.

This process gives therefore comparatively little gas and coke is entirely absent. In a heavier or repeated cracking not only a further decomposition of the original oils according to the above scheme, but also a decomposition of the lighter hydroaromatic hydrocarbons takes place. This last process consists in the dehydrogenation of hydroaromatic hydrocarbons followed by the splitting up of the simplest side chains, which reaction is carried out at a much lower speed. Simultaneously the hydrogen liberated in the course of the dehydrogenation as well as the lighter hydrocarbons formed during the splitting up of the shorter chains cause the formation of large amounts of gas. The increased amount of aromatics collected is also a cause of coke formation in the course of further condensation processes.

Therefore the recycling processes also

(Continued on Page 147)

*Research Institute of The Oil Trust "Grozneft," translated from manuscript. Part of material to appear in book by authors entitled "Chemistry and Technology of Cracking."

TABLE 1

Cracking conditions: Temperature degrees-Cent.	Atmospheres pressure	Duration minutes	Yield of cracked products, % by weight: Cracked gasoline boiling below 200°C	Coke	Specific gravity at 15°C of cracked residue boiling above 300°C
Spindle oil distillate of specific gravity 0.925.					
425	10	30	15.7	0.00	0.947
425	10	60	19.4	0.03	0.975
425	10	90	30.9	0.43	1.054
Groznuii paraffin distillate of specific gravity 0.883.					
425	10	34	14	0.00	0.901
425	10	63	21.5	0.00	0.932
425	10	94	34.2	0.62	1.04

TABLE 3

Number of cracking operations—	Yields on the original gas oil in % by weight: Gases and loss	Below 200°C.	200-300°C.	300-350°C.	Above 350°C.	Carboids	200-350°C.	Distillation losses
One	8.3	28.7	33.1	16.6	10.5	0.0	48.6	3.7
Two	4.2	10.4	21.7	7.3	4.2	0.0	29.0	1.0
Three	2.0	4.7	14.9	4.5	2.0	0.0	19.4	0.5
Four	1.5	2.4	9.9	3.0	2.0	0.0	13.0	0.5
Five	1.0	0.5	8.6	1.1	1.6	0.0	9.7	0.1
Six	1.3	0.8	5.3	0.4	1.8	0.0	5.7	0.1
Total yield in % by weight	18.3	47.5	5.3	0.4	22.1	0.0	...	5.9

TABLE 4—CHANGES IN THE SPECIFIC GRAVITY OF EMBA GAS OIL AFTER REPEATED CRACKING

Number of cracking operations—	Specific gravity of Emba gas oil—distillate (15°C.): Before cracking	After cracking	Difference
One	0.872	0.842	+0.030
Two	0.886	0.858	+0.020
Three	0.911	0.915	—0.004
Four	0.939	0.949	—0.010
Five	0.963	0.984	—0.021
Six	0.969	1.135	—0.0167

TABLE 5—CHARACTERISTICS OF PRODUCTS OBTAINED FROM RECRACKING EMBA GAS OIL DISTILLATE

Number of cracking operations—	Cracked gasoline boiling below 200° C.: Spec. grav. at 15°C.	Aniline point (°C.)	Iodine number	Cracked kerosene boiling at 200-300° C.: Spec. grav. at 15°C.	Aniline point (°C.)	Iodine number	Cracked fraction 300-350° C.: Spec. grav. at15°C.	Aniline point (°C.)
Origin gas oil	....	....	....	....	....	...	0.871	+77.5
One	0.746	+41.5	118.5	0.872	51.0	42.3	0.915	.....
Two	0.769	+34.0	....	0.897	.....	...	0.962	.....
Three	0.797	+24.2	....	0.925	.....	...	0.993	.....
Four	0.833	+8.4	54.8	0.949	—3.0	13.4	1.105	....
Five	0.839	+0.8	47.8	0.964	—11.0	...	*1.203	.....
Six	0.873	below —18.0	41.2	0.980	below —17.0	8.5	†1.042	below —17.0

TABLE 2
Recycling of Emba gas oil

Number of cracking operations	Cracking conditions: Temperature °C.	Pressure atmospheres	Duration minutes	Yield in cracked products in % by weight: Gases and loss	Below 200°C.	200-300°C.	300-350°C.	Residue above 350°C.	Carboids	Liters of gas per kilogram cracked gasoline	Specific gravities at 15°C. Residues: Below 200°C.	200-300°C.	300-350°C.	above 350°C.	200-350°C.	Distillation losses
One	450	40	42	8.3	28.7	33.1	15.6	10.5	0.0	182	0.746	0.872	0.915	0.996	0.886	3.7
Two	450	40	52	8.6	21.3	44.5	15.1	8.6	0.0	256	0.769	0.897	0.962	1.050	0.991	2.0
Three	450	40	75	7.0	16.3	51.3	15.7	7.9	0.0	333	0.797	0.925	0.993	1.116	0.939	1.8
Four	450	40	101	7.9	12.1	51.2	15.6	10.3	0.0	463	0.833	0.949	1.105	1.177	0.963	1.8
Five	450	40	101	7.7	3.9	65.8	9.2	12.4	0.0	849	0.839	0.964	1.203	1.157	0.969	1.0
Six	450	40	160	13.8	8.0	54.3	4.2	19.0	0.0	1,525	0.873	0.980	1.042	1.243	....	0.7

Note: The yields in cracked products were calculated on the charge for each experiment. Coke was not formed at all in the above experiments.

The refiner who makes good gasoline from cheap raw material has two important advantages over the refiner who makes a knocking gasoline from a higher cost raw material

Every Dubbs licensee is in the enviable position of making the best gasoline from the cheapest charging stock (fuel oil) He also relieves himself of the necessity of selling fuel oil in a giveaway market He Dubbs cracks so as to make no fuel oil

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

THE OIL MAN'S CALENDAR

December 16-17 — Washington, American Pharmaceutical Manufacturers' Association, Hotel Washington.

January 4-11 — New York, National Automobile Show, Grand Central Palace.

January 11-18 — Atlantic City, N. J., convention, American Roadbuilders' Association.

January 14—Miami, Fla., aeronautic meeting, Society of Automotive Engineers.

January 19-25 — Chicago, National Oil Show, Hotel Sherman.

January 20-24—Detroit, Mich., annual meeting, Society of Automotive Engineers, Book-Cadillac Hotel.

January 22-24 — Boston, Mass., Independent Oil Men's Association of New England, American House.

January 25-February 1 — Chicago, National Auto Show, Coliseum.

January 28-29—Milwaukee, Wis., Wisconsin Petroleum Association, Hotel Pfister.

February 11-12 — Des Moines, Iowa, Iowa Petroleum Association, Fort Des Moines Hotel.

February 19-21—Columbus, Ohio, Ohio Petroleum Marketers' Association, Deshler-Warwick Hotel.

March 10-12 — Shreveport, La., convention, Western Petroleum Refiners' Association.

March 19-21 — Detroit, Mich., convention, Michigan Oil Men's Association, Statler Hotel.

March 20-22—New Orleans, La., American Association of Petroleum Geologists, Roosevelt Hotel.

April 5—New York, fiftieth anniversary celebration, American Society of Mechanical Engineers.

April 5-13—Detroit, Mich., All-American Aircraft Show.

April 7-12 — Chicago, annual meeting, American Oil Burner Assn., Stevens Hotel.

Late Fields

GULF COAST

HOUSTON, Tex., Dec. 17.—The Texas Company's No. 1 Fitzhugh, a wildcat at Big Hill, Jefferson County, which had a promising sand at approximately 5,070 feet, tested salt water, thus ending hopes of operators for bringing in Big Hill's first commercial producer at this time. Tuesday screen was being pulled to deepen.

WEST TEXAS

FORT WORTH, Tex., Dec. 17.—Deep Rock Oil Co.'s No. 1 Ogden, S half Section 6, Block A-46, Andrews County, flowed 142 bbls. in past 12 hours while fishing for tools and several hundred feet of wire line which were lost in the hole. Total depth is 4,395 feet.

Barnett and Drake's No. 1 Callan, Section 1, B.S.&F. Survey, Menard County, encountered another showing of oil at 1,268 feet with an estimated 2,000,000 feet of gas and some water. The first showing in this wildcat was at 1,132 feet three weeks ago.

Buell and Hagan's No. 1 Byrne, NE. Section 10, H.&G.N. Survey, Pecos County, had an estimated 2,000,000 to 4,000,000 feet of gas from 1,325-29 feet, and a rainbow show of oil from 1,329-60 feet.

INDIANA

The Dome Oil Co. of Highland and Gary, Ind., is drilling a test in the north part of North Township, Lake County, Indiana. Drilling depth at this date is 700 feet. They are using standard derrick with standard drilling tools and are drilling in 8-inch hole. Highland, Ind., is 8 miles west of Gary, Ind., or 7 miles south of East Chicago, Ind. Drilling was started some three weeks ago but owing to bad luck and long distance from oil country supplies progress has been very slow.

MICHIGAN

MUSKEGON, Mich., Dec. 17.—Average daily production of two Michigan oil fields at Muskegon and Saginaw showed a slight increase for the week ending December 16 at 7 a.m., but a decrease of 300 bbls. in Dundee production of the Mount Pleasant Field resulted in a daily decrease of about 140 bbls. for the State.

The Mount Pleasant Field led the State with a daily average production of 7,800 bbls. of Dundee and 100 bbls. of Traverse crude. The Muskegon Field was a close second with 6,980 bbls. of Dundee and 484 bbls. of Traverse daily. The Saginaw Field made 240 bbls. of Traverse daily.

Muskegon Dundee production increased 80 bbls. and Traverse increased 76 bbls. a day over the previous week. Saginaw production was up 5 bbls. a day.

SOUTHWEST TEXAS

SAN ANTONIO, Tex., Dec. 17.—Houston Oil Co.'s No. 1 J. J. McKinney, Bee County, in L. C. Randolph Survey, 1 mile south of the Pettus gas well, with sand at 3,857-63 feet, on drill stem test with valve open seven minutes showed 150 feet of oil. The test is on Humble Oil & Refining Co.'s acreage, from which company the Houston Oil Co. secured the gas lease only. Humble will pay Houston for the cost of the well. Gas in Pettus Field is found at 2,900 feet. The new find looks like an entirely new field.

OKLAHOMA

The Coline Oil Co.'s No. 2 Warren, NW cor. NW SW, Section 18-11-2w, in the northeastern part of the Oklahoma City Pool, made 25,454 bbls. in 22 hours, cutting 5 per cent. The well blew in early last week and was then shut in to erect more separators and was opened for a production test Monday, December 16. It is producing from the Arbuckle lime at 6,054-6,537 feet. It will be shut in for the proration period.

Indian Territory Illuminating Oil Co.'s No. 1 Speegle, SW cor., Section 24-11-3w, on the west edge of the Oklahoma City Pool, flowed 1,298 bbls. the first 24 hours. It is producing from a sand formation found at 6,375-6,400 feet. It has been shut in for the usual proration time.

The last 24 hours' production of the Oklahoma City Pool, as of December 17, at 7 a. m., was 77,173 bbls. from 19 wells. The production was from the Class "A" wells. The gauges by companies and leases were as follows:

Company, farm—	Bbls.
Coline, No. 2 Warren	25,454
Hall & Briscoe, No. 1 Childs	6,960
I. T. I. O., No. 1 S. Bodine	252
I. T. I. O., No. 2 S. Bodine	345
I. T. I. O., No. 1 Foster	204
I. T. I. O., No. 1 Fuzzell	14,469
I. T. I. O., No. 1 B. Johnson	2,932
I. T. I. O., No. 1 Speegle	355
I. T. I. O., No. 1 Trosper	1,119
Mid-Kansas, No. 1 Fortson	1,006
Mid-Kansas, No. 3 Fortson	5,845
Prairie, No. 1 Hiddleston	5,108
Prairie, No. 3 Hiddleston	3,695
Shell, No. 5 Petty	95
Sinclair, No. 1 Kinter	180
Sinclair, No. 1 Stamper	635
Sinclair, No. 2 Stamper	340
T. B. Slick, No. 1 Glidden	5,565
T. B. Slick, No. 2 Glidden	2,614
Total	77,173

Tom Slick Oil Co.'s No. 1 Martin, NW cor., Section 13-13-1w, a wildcat near Jones, in Oklahoma County, was drilling at 6,877 feet with a show of gas on December 16.

The production of the East Little River was 23.676 bbls. from 50 wells, on the gauge of December 17 at 7 a.m.

Production of the East Earlsboro Pool was 32,698 bbls. from 94 wells, on the gauge of December 17, at 7 a.m.

Gypsy Oil Co.'s No. 9 Barkus, in Section 6-8-6, in the Mission Pool, was drilling at 5,320 feet, December 16. It is the deepest drilling test in the Seminole area. It was carrying 5,000 feet of water in the hole.

Peerless Oil Producing Co. and others' No. 1 Wentz, NW cor. SW, Section 22-22-1, Noble County, has 2,400 feet of oil in the hole from the supposed Layton sand at 3,282-85 feet. The 6-inch casing is being landed on top of the sand, and the test will be drilled deeper for a production test.

KANSAS

The new wildcat well of Slick, Pryor & Lockhart in Sumner County made 193 bbls. in 22 hours by swabbing. It was drilled deeper to a total depth of 3,659 feet. The well is No. 1 Peasel, NW cor., Section 33-31-1w, Sumner County. It is now shut in to 50 bbls. a day awaiting a pipe line.

Six miles west of the Slick, Pryor & Lockhart well, the Kingwood Oil Co.'s No. 1 Stayton, C NE, Section 18-31-2w, Sumner County, found the chat pay dry at 3,845-55 feet. The 6-inch casing will be lowered through the chat formation and the test drilled deeper.

The Shell Petroleum Corp.'s No. 1

(Continued on Page 151)

High Spots in Field News

NORTH LOUISIANA

Drilling campaign starts at Zwolle, Sabine Parish.

ROCKY MOUNTAIN AREA

Lea County, New Mexico, has big gassers.
Deep test in Wyoming finds heavy oil flow in Sundance.

KANSAS

New wildcat in Sumner County made 193 bbls. in 22 hours by swabbing.
Shell Petroleum Corp. has well estimated at 16,000 bbls. in Ritz Pool, McPherson County.

SOUTHWEST TEXAS

Houston Oil Co.'s No. 1 J. J. McKinney, Bee County, 1 mile south of Pettus gas well, showed 150 feet of oil on test. Looks like new field.
Two more oil wells at Darst Creek. Over 30 tests in progress.

CALIFORNIA

Santa Fe Springs operators endorse limit on operations and supplementary agreement on curtailment.
Expansion of tideland drilling likely to become important factor in California.

NORTH TEXAS AND PANHANDLE

Sherwood Owen's wildcat southwest of Sterling City, Sterling County, had rainbow of oil at 1,615 and stronger showing at 1,628-33 feet.
Waggoner Pasture, Wilbarger County, well makes 1,063 bbls. in 23 hours.
Gray County, Panhandle, daily average jumped 3,113 bbls.

GULF COAST

The Texas Company's wildcat at Big Hill, Jefferson County, No. 1 Fitzhugh, had promising sand at 5,070 feet, but after drilling plug tested salt water. Will be deepened.
Formerly abandoned test at North Dayton, Liberty County, flows 4,000 bbls. when deepened.

WEST TEXAS

Deep Rock Oil Co.'s No. 1 Ogden, Andrews County discovery well, flowed 142 bbls. in 12 hours. Fishing for tools and wire line at 4,395 feet.
Irion County deep test strikes water.
Thought Andrews County well is on trend from Ector County over into New Mexico.

OKLAHOMA

Coline Oil Co.'s No. 2 Warren, Oklahoma City Pool, made 25,454 bbls. in 22 hours, cutting 5 per cent.
Indian Territory Illuminating Oil Co.'s No. 1 Speegle, west edge of Oklahoma City Pool, flowed 1,298 bbls. in 24 hours.
Oklahoma City Pool looks larger than ever with completion of 30,000 bbls. and 20,000 bbls. in past week.

LAGO SHIPMENTS

NEW YORK, Dec. 16.—Lago Oil & Transport Co. shipped from Venezuela during the week ended December 6, a total of 792,252 bbls., a daily average of 113,179 bbls., against 698,921 bbls., or 99,846 bbls. per day, in the previous week. This crude was moved to the Pan American refinery at Aruba, Dutch West Indies.

Production by Lago in the week ended December 6 totaled 648,719 bbls., or 92,674 bbls. per day, against 682,184 bbls., or 97,455 bbls. daily, in the preceding week.

TAX ON GASOLINE

Special tax (Octroi) on gasoline entering Paris will probably be abolished January 1, 1930. The Ministers of the Interior and Finance have agreed to introduce legislation very shortly which will have the effect of abolishing the special tax (Octroi) which is levied on gasoline entering Paris and, more important for the motorists, will result in the abandonment of the much disliked "green ticket."

A.P.I. WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to stills, gasoline stocks and gas and fuel oil stocks—for the week ending December 14 follows:

	(1)	(2)	(3)	(4)
East Coast	100.0	3,213,800	5,260,000	7,934,000
Appalachian	91.0	551,700	1,109,000	820,000
Indiana, Illinois, Kentucky	98.6	2,161,600	4,512,000	3,527,000
Oklahoma, Kansas, Missouri	88.6	2,064,100	2,999,000	3,466,000
Texas	90.3	3,773,900	6,409,000	13,715,000
Louisiana and Arkansas	95.1	1,352,400	1,959,000	4,764,000
Rocky Mountain	92.9	480,500	1,996,000	987,000
California	99.3	4,450,900	14,814,000	109,002,000
Total United States	95.2	18,048,900	39,058,000	144,215,000
Texas Gulf Coast	99.4	2,996,200	5,439,000	10,753,000
Louisiana Gulf Coast	100.0	957,900	1,714,000	4,025,000

(1) Per cent refinery capacity represented. (2) Crude runs to stills. (3) Gasoline stocks. (4) Gas and fuel oil stocks.

Especially on Christmas and New Year's is reliable gas service appreciated.

The TRANSIT 17x24" Gas Engine Compressor is a strong link in the chain of reliability.

National Transit
Pump & Machine Co.
Oil City, Pa.

Okla. City Looms Larger Than Ever

A 30,000-Bbl. and a 20,000-Bbl. Well Completed in Past Week. Field's Potential Estimated at 307,332 Bbls.

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

The average daily production of Oklahoma for the week ending December 14 was around 650,000 bbls., in spite of the big wells completed in the Oklahoma City Pool.

The interest this week in the Oklahoma City Pool is in the north end while last week it was in the southern part. Indian Territory Illuminating Oil Co.'s No. 2 Verne, NE cor. SW SE, Section 13-13-3w, in the northern part of the pool, made 30,833 bbls. the first 24 hours. It was producing from the Arbuckle lime at a total depth of 6,535 feet,, the 6-inch casing was landed at 6,123 feet.

There are 33 rigs up and 128 wells drilling in the greater Oklahoma City area. Including rigs, drilling, wells completed and wells producing there are 211 operations in the area, listed as follows:

Oklahoma City Operations

Rigs up	33
Wells drilling (above 5,200 ft.)	34
Wells drilling (below 5,200 ft.)	48
Wells drilling (below 6,000 ft.)	25
Wells with final casing set	21
Wells shut in account of proration	20
Wells producing	30
Total	211

Estimates on Near Completions

An estimate of the production of the 21 wells in which the final casing has been landed, after a careful analysis of the location of the different wells and the initial production of offset wells to these tests, by the umpire, is 173,250 bbls. A list of the wells and the estimated production of each as of December 11, is as follows:

Company, farm—	Well No.	Bbls.
Shell, Petty	2	500
Prairie, Hiddleston	2	150
Shell, Petty	3	100
I.T.I.O., Verne	2	30,000
Prairie, Hiddleston	4	4,000
I.T.I.O., E. Fortson	1	1,500
I.T.I.O., Thomas Fuzzell	2	20,000
I.T.I.O., Wheeler	2	6,000
I.T.I.O., Nettie Emerson	2	8,000
I.T.I.O., Williams-Canfield	1	5,000
I.T.I.O., Wheeler	1	7,000
Coline, Warren	1	10,000
I.T.I.O., Jennings	1	10,000
I.T.I.O., Sadie Peterson	1	5,000
I.T.I.O., Warner-Speegle	1	5,000
Skelly, Hoopes	1	20,000
I.T.I.O., Watters	3	5,000
Prairie, Hiddleston	5	4,000
I.T.I.O., B. Johnson	2	4,000
I.T.I.O., Jennings	2	10,000
Slick, Zeckerle	1	4,000
Total		173,250

The following table is the total potential production of the Oklahoma City Field based on Umpire Bradford's figures, without any decline indicated for the old production. The total potential for January 1, from the "A" and "B" wells is 190,037 bbls. The total potential for February 1, from the "A" and "B" wells is 268,872 bbls.

Potential Field Production

	Bbls.
"A" wells prod. December 2	57,348
"A" wells due by January 1:	
T. Fuzzell 1, 12-16-29	42,557
Trosper 2, 12-23-29	19,722
Browning 1, 12-23-29	11,575
Total "A" well potential	73,854
Total potential for January 1, "A" wells	131,202
"B" well prod. December 7	58,835
"B" wells due by January 1	None
Total potential of prod. wells January 1 "A" and "B"	190,037

Potential Estimate of Producing Wells February 1

"A" well potential January 1	131,202
"A" wells due by February 1:	
Olds 2, 1-3-30	4,689
E-Joyce 1, 1-6-30	100
N. Emerson 1, 1-8-30	875
Fortson 4, 1-9-30	3,242
Fortson 5, 1-17-30	6,256
Kinter 2, 1-17-30	7,565
School L. 1, 1-20-30	6,635
Stamper 5, 1-31-30	340
Total "A" well potential	32,702
Total "A" well potential Feb. 1	163,904
"B" well potential January 1	58,835
"B" wells due by February 1:	
Mollman 1, 1-18-30	2,500
Fortson-F 2, 1-23-30	42,148
Watters 2, 1-25-30	1,420
Petty 5, 1-27-30	65
Total "B" well potential	46,133
Total "B" well potential Feb. 1	104,968
Total potential for Feb. 1 "A" "B"	268,872

December 11 Potential of All Wells

The potential production of the Oklahoma City Field for the week ending December 11 was estimated at 307,332 bbls. from 44 wells, including the wells that are completely shut in after producing the first 24 hours. Three new wells were added to the total in the past week, one being a 30,000-bbl. producer, and another one estimated to be a 20,000-bbl. producer. It was only produced seven hours and made 7,400 bbls. The following is the initial production of the shut-in wells in the Oklahoma City Pool:

Company and farm—	No. well	B'ls.
I. T. I. O., Thomas Fuzzell	1	43,557
I. T. I. O., Trosper	2	19,722
Mid-Kansas, Browning	1	11,575
Coline, Olds	2	4,689
I. T. I. O., Emerson-Joyce	1	100
I. T. I. O., N. Emerson	1	875
Mid-Kansas, Fortson	4	3,242
Mid-Kansas, Fortson	5	6,256
Sinclair, Kinter	2	7,565
Mid-Kansas, Mollman	1	1,500
Sinclair, School Land	1	6,635
I. T. I. O., Fortson-Farley	2	42,584
I. T. I. O., Watters	2	1,420
Shell, Petty	5	65
Sinclair, Stamper	5	340
I. T. I. O., Trosper	3	8,620
Shell, Petty	4	700
Sinclair, Stamper	6	2,500
I. T. I. O., Verne	1	154
I. T. I. O., Verne	2	30,833
Skelly, Hoopes	1	*7,400
Total		200,332

*18-hour gauge.

The pipe line and loading rack facilities in the pool were given in last week's issue as 166,000 bbls. daily. It was estimated that these shipping facilities could handle less than 40 per cent of the potential production of the Oklahoma City Pool. The actual daily average production for the pool during the month of November was 56,600 bbls. and the actual pipe line shipments from the field for the same time were 57,232 bbls. The daily average pipe line shipments by companies were as follows:

Company	Bbls.
Prairie P. L.	19,471
Oklahoma P. L.	10,886
Empire P. L.	10,569
Shell P. L. (9 days)	7,657
Sinclair P. L. (1 day)	5,095
Magnolia P. L. (16 days)	3,554
Total	57,232

South End Extended

The south end of the Oklahoma City Pool was extended a location south last week when the Skelly Oil Co.'s No. 1 Hoopes, NW cor. NE Section 31-11-2w, made 7,400 bbls. the first seven hours. It is the most southern producing well in the field at this time. After flowing for seven hours it was shut in on account of the appearance of sand which threatened to cut the connections. It will be opened later for the remainder of the 24-hour initial production test. Several new locations were made after the completion of this well, including Tom Slick Oil Co.'s No. 3 Hoopes, NE cor. SW NE Section 31-11-2w, and Skelly Oil Co.'s No. 3 Hoopes, SE cor. NW NE Section 31-11-2w.

Indian Territory Illuminating Co.'s No. 2 N. Emerson, NW cor. SW Section 30-11-2w, was bailing and showing a little oil at a total depth of 6,433 feet. It has been bailing for several days and is expected to blow in over the week end. It is in the south end of the field.

Coline Oil Co.'s No. 2 Warren, NW cor. SW Section 18-11-2w in the northeast part of the field, blew in early in the week and showed for a large producer, but was shut in after it flooded the separators. It is expected to be opened for a 24-hour production gauge early in the week. Some estimate it to be a 20,000-bbl. well.

Indian Territory Illuminating Oil Co.'s No. 1 S. Bodine, NW cor. Section 30-11-2w, a southeast offset to the discovery well, went dead and was put on the gas lift. It has not produced any oil since going dead and made 4,660 bbls. of water on the gauge of December 14.

Prairie Oil & Gas Co. and others' No. 1 Sudick, C NE NE Section 8-10-2w, Cleveland County, was drilling at 7,615 feet, December 15, in lime. This wildcat is some 6 miles south of the main production in the Oklahoma City Pool, and is the deepest drilling test in the State.

Tom Slick Oil Co.'s No. 1 Martin, NW cor. Section 13-13-1w, a wildcat near Jones, Oklahoma County, was drilling in lime at 6,750 feet, December 14.

Magnolia Petroleum Co.'s No. 1 Noble, NW cor. SW SW Section 30-12-3w, a wildcat east of the Oklahoma City Pool, was drilling at 6,800 feet in lime with nothing showing.

The Peerless Oil Producing Co., Washoma Oil Co. and the Prairie Oil & Gas Co.'s No. 1 Wentz, NW cor. SW, Section 22-22-1, Noble County, wildcat, filled up 800 feet with oil over night. The test is located on a block of 640 acres, a half mile south of the Otoe Indian Reservation. It found oil in the Layton sand at 3,279-82 feet. The 6-inch casing will be landed on the top of the sand to dry the hole up. It was carrying water from the 2,880-foot sand. Three other tests have been drilled in the vicinity and had from 75 to 90 feet of Layton sand, each with a showing of oil. All were abandoned after finding water in the Wilcox sand.

Seminole Production

Seminole production for the week ending December 11, showed a decline of about 6,000 bbls. from the previous week. Most of the decline was in the East Earlsboro Pool which is now under a 50 per cent proration plan. Some of the other pools show increases while others small declines.

East Earlsboro Pool had several new wells last week, some being shut in on account of proration. Minnehoma Oil Co.'s No. 3 Noe, NW cor., Section 17-9-6, Seminole County, made 2,854 bbls. on the gas lift, cutting 6 per cent. Amerada Petroleum Corp.'s No. 1 Scott, NW cor. SW, Section 19-9-6, made 2,700 bbls. of oil and is completed. Prairie Oil & Gas Co.'s No. 2 Jefferson, NW cor. SE, Section 19-9-6, made 2,180 bbls. on the gas lift, from a total depth of 4,122 feet. Some express an opinion the south end of the field may be defined as the tests now producing in the Wilcox sand are small wells and most of those are showing water. Carter Oil Co.'s No. 2 Powell, SW cor. SE SW, Section 17-9-6, had Wilcox sand at 4,302-22 feet, and was showing 3 bailers of water an hour. Same company's No. 3 Wrightsman, SW cor. NE NE, Section 19-9-6, had 500 feet of oil in the hole from the Wilcox sand at 4,178-91 feet. It was also showing considerable gas. Independent Oil & Gas Co. and others' No. 2 Fixico, SW cor. NW, Section 20-9-6, had 500 feet of oil in the hole from the Wilcox sand at 4,214-19 feet.

East Little River Pool is holding about even with last week's gauges, two new wells were added to the pool, the natural decline offset the initial production. It is being curtailed 25 per cent of its potential.

Production in the older areas of the Little River Pool was almost the same as last week's, only a slight increase with the same amount of wells. Barns-

(Continued on Page 76)

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location— Remarks:

Smith Bros.' No. 1 Forbes, SE cor. NW NW Sec. 12-27-11w ..... Shut down 1,232 ft.

J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w.. Shut down 4,650 ft.

BECKHAM COUNTY

Kay and others' No. 1 Martin, C E half E half NW Sec. 32-8-24w ..... Shut down 2,056 ft.

Producers Exploration Co.'s No. 1 Seidell, SE cor. SW SW Sec. 17-9-22w ..... Shut down 2,402 ft.

Carson and others' No. 1 Danby, SW cor. SE NE Sec. 20-8-22w ..... Shut down 1,617 ft.

BLAINE COUNTY

Lowen and others' No. 1 Unknown, NW cor. SW NW Sec. 27-16-11w ..... Spudded and shut down.

Washoma Oil Co. and others' No. 1 Phillips, C NW SW Sec. 12-19-10w ..... Shut down 2,935 ft.

CADDO COUNTY

Abernathy & Brown's No. 1 Horton, SE cor. Sec. 8-6-13w. Shut down 535 ft.

W. J. Hartley's No. 1 Galbreath, SE cor. NW SE Sec. 29-5-12w ..... Shut down 3,394 ft.

CLEVELAND COUNTY

Harris et al's No. 1 Highbee, SE NW Sec. 20-6-1 ..... Rig.

Daniels & LeWright's No. 1 Vandever, C SW Sec. 15-7-1w ..... Shut down 3,130 ft.

Phillips Pet. and T. B. Slick's No. 1 Sudick, NE cor. NE Sec. 8-10-2w ..... Drlg. 7,585 ft.

COAL COUNTY

W. E. McGraw's No. 1 King, C SW NE Sec. 11-1-8e .... Shut down 1,285 ft.

COMANCHE COUNTY

G. W. Stogner's No. 1 Doebel, C SW SW Sec 3-3-9w ... Rig.

Green and others' No. 1 Wilson, C NE SW Sec. 14-1-12w.. Shut down 4,055 ft.

CREEK COUNTY

Carter Oil Co. et al's No. 1 Clinton, SW NW Sec. 12-15-9.. Drlg. 2,985 ft.

GARFIELD COUNTY

Continental and Barnsdall's No. 1 Brown, CNL SW Sec. 10-20-4w ..... Drlg. 2,327 ft.

E. L. Love and others' No. 1 White, SE cor. NW Sec. 9-24-6w ..... Fishing 5,566 ft.

GRADY COUNTY

J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w... Spudded and shut down.

(Continued on Page 101)

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Shell Has Big Well in Ritz Pool

Estimated at 16,000 Bbls., the Largest Initial Producer in Kansas Since 1918. New Oil Pay in Sedgwick County

By W. A. Spinney
Staff Correspondent, Kansas Fields

The largest well completed in Kansas since the year 1918 was drilled in Saturday, December 14, by the Shell Petroleum Corp. in the Ritz Pool, in McPherson County. It is estimated to be a 16,000-bbl. well from the chat formation. The first three hours' production was 2,000 bbls. and filled all tankage on the lease. It was pinched in and permitted to produce only 2,245 bbls. up to 7 a.m. December 15, and 2,055 bbls. the following 24 hours, against a back pressure of 250 pounds. The well found the chat pay at 2,945-65 feet.

It is the largest initial producing well yet found west of the Granite Ridge. The Shumway farm of the Gypsy Oil Co. in Section 11-26-4, Towanda Pool, Butler County, has held the big well record for Kansas since 1918. The Gypsy's No. 13 Shumway was the largest initial producer on the lease. It came in on March 16, 1918, estimated at 17,000 bbls. the first 24 hours. No. 6 Shumway, which produced 2,225,000 bbls. before it quit flowing, came in in October, 1917, rated at 11,000 bbls. the first 24 hours. It produced more oil than any other Kansas well.

According to the proration agreements by the companies operating in the Ritz Pool area, all new wells are shut in to 50 per cent of their potential production.

New Oil Pay in Sedgwick

The Shell Petroleum Corp.'s No. 2 Borg, NW cor. SW SW Section 14-26-2, Sedgwick County, east of the Greenwich townsite area, found oil in a new sand horizon. It swabbed 264 bbls. in 21 hours. The test was dry in the chat and it had water in the Viola at 3,029 feet. Casing was landed at 3,350 feet, and the stray sand was found at 3,352-54 feet. The hole filled up 1,500 feet with oil in six hours. The new well will be curtailed to 50 bbls. per day on account of proration agreements in that area.

Wentz Oil Corp.'s No. 1 Moore, SE cor. NW Section 17-28-1, Sedgwick County, 2 miles south of Wichita, is a failure in the chat pay. It had only a small showing of oil in the chat at 3,103-05 feet, and was drilling deeper at 3,135 feet on December 14. The showing of oil failed to develop into commercial quantities.

The Derby Oil & Refining Corp.'s No. 1 Stuckey, NE cor. SE, Section 9-21-3w, McPherson County, in the Voshell Pool, is one of the outstanding producers in the State. Its record is interesting because it is producing almost as much oil now as it did when completed. The well has been averaging better than 1,200 bbls. for 26 days. The initial production was 1,328 bbls. The proration committee allowed the well to produce 35 days as a discovery right. It will then be pinched to 50 bbls. daily. It was opened for production November 16, and it is producing from the Wilcox sand found at 3,318-25 feet.

In the same pool, McBride, Inc., and others' No. 2 Voshell, SE cor. NE NE, Section 9-21-3w, McPherson County, swabbed and flowed 5,015 bbls. the first three days and was then pinched to 50 bbls. daily, in accordance with the proration plans now in effect in the pool. Same company will start an east offset to the Mid-Kansas Oil & Gas Co.'s No. 1 well. It will be located in the NW cor. NE NE, Section 9-21-3w. It was the largest well yet completed.

Mid-Kansas Oil & Gas Co.'s No. 1 Voshell, NE cor. NW NE, Section 9-21-3w, in the Voshell Pool, in McPherson County, made 1,875 bbls. on the gauge of December 14, and 1,315 bbls. on the gauge of December 16. The Wilcox sand was found at 3,275-85 feet.

Derby Oil & Refining Corp.'s No. 1 Griffin, C SW, Section 11-19-2w, McPherson County, has 2,000,000 feet of gas from chat at 2,894-2,924 feet. It will be drilled deeper.

Stroub & Dutton and McCulloch Oil Co.'s No. 1 Kirby, SE cor. SW, Section 12-28-3, Butler County, found a good showing of oil in the Kansas City lime at 2,230-90 feet. The showing of oil was through 5 bailers of water an hour. The water was being carried from 1,765 feet. Casing is now being run to shut off the water. Some predict the test is finding the formations high and that production may result from deeper drilling. Carter Oil Co. and Empire Oil & Refining Co. own offsets.

Leasing in Finney County

Finney County, in western Kansas has been having a lease buying campaign, although no tests are drilling and development may not start until next summer. Oil companies have put on record at Garden City, the county seat, more than 71,000 acres of leases. The Sinclair Oil & Gas Co., Phillips Petroleum Co., Midwest Exploration Co., Prairie Oil & Gas Co., and Producers & Refiners Corp. are some of the companies taking blocks. Magnetometer surveys were made last summer and core drilling has been carried on extensively.

Empire Oil & Refining Co., Shell Petroleum Corp., Carter Oil Co. and J. H. Tatlock are moving in a rig for a community test in the C SW SE, Section 33-18-9w, in the northwest part of Rice County.

Producers & Refiners Corp.'s No. 1 Thompson, SE cor. NW, Section 21-20-10w, Rice County, was drilling at 2,100 feet, December 13. The test is an offset to Slick, Pryor & Lockhart's No. 1 Shurr in the same section which is pumping 140 bbls. daily of oil of the highest gravity yet found in the State. The completion of the high gravity well proved the Ellsworth Arch was productive. The arch runs in a northeast and a southwest direction through the western part of the county. A drilling campaign has been in progress which is now extending south into Reno County. The large blocks in northern Reno County have been leased by L. E. Wentz, Continental Oil Co. and Shell Petroleum Corp. Part of the area has been core drilled. Continental Oil Co. blocked in Township 22-8w, Reno County, and Township 21-8w, Rice County. The block adjoins the town of Sterling on the west. South of Nickerson, in Township 22-7w, Reno County, Shell Petroleum Corp. completed a block. On south of this L. E. Wentz blocked acreage south of the Arkansas River in the same township.

Counties west of Butler showing the most field activity are McPherson with 27 operations, Sedgwick 27, Sumner 17, Rice 13, Harvey 8, Reno 7, Russell 7, Stevens 4, Barber 4, Trego 6, Ellis 4 and Barton 3.

Far West Developments

The Stevens County gas field near Hugoton is the most western of any development in the State. The gas field is only 40 miles east of the Colorado state line and is 200 miles southwest of Wichita. Argus Oil Co. and McKenna's No. 1, C NW NW, Section 29-33-36w, found 6,250,000 feet of gas at 2,780 feet, in sandy shale. It is the third gas well in the field.

The Continental Oil Co.'s No. 1 Moses in Section 7-18-25w, Ness County, pumped 186 bbls. of oil on the gauge of December 13. It is the most westerly oil producer in the State.

Twenty-four Oil Wells in Reno

At the present time there were 24 producing wells in Reno County, with a total daily average production of 600 bbls. The largest producer, owned by the Independent Oil & Gas Co., is No. 2 Miller, which is making 343 bbls. daily.

In Cowley County

In the State Pool, north of Winfield, Independent Oil & Gas Co. and McKnab-Bess' No. 3 State, in Section 15-32-4, Cowley County, has oil in the Siliceous lime at 3,255-58 feet. It swabbed 90 bbls. of oil and 75 bbls. of water. Roth & Farout's No. 1 in Section 31-31-8, on the east side of Cowley County, found a showing of oil in what some believe to be the Peru sand at 1,975-78 feet. The crew was delayed by frozen water lines. It will be deepened in the sand and a production test made. West of Winfield, Shawver and others' No. 1 Oldham, NW cor. SE, Section 23-32-3, Cowley County, found the top of the lime at 3,155 feet. This wildcat test missed the Bartlesville sand.

Since the discovery of oil in the Slick, Pryor & Lockhart's No. 1 Peasel, north of Wellington, in Sumner County, that area is being closely checked and a drilling campaign may develop in the next few weeks.

Sedgwick Semiwildcats

Shell Petroleum Corp.'s No. 1 Morris, SE cor., Section 10-26-2, Sedgwick County, in the northeast extension of the Lygrisse Pool, is running tubing to be put on the pump. The well has been swabbing 175 bbls. of oil and 60 bbls. of water from the chat horizon at 2,900 feet. Dixie Oil Co.'s No. 1 Emerald, SW cor., Section 11-26-2, in the same area, was drilling at 2,820 feet and looking for the chat pay in the next few feet.

Rogers and others' No. 1 Updegraff in the SE cor. SW SE, Section 26-25-1w, Sedgwick County, northwest of the Valley Center Pool, was drilling at 2,500 feet, the base of the Kansas City lime. Some express an opinion that the lime was running low. It will be drilled to the Simpson pay, which is expected at about 3,550 feet.

L. H. Wentz' No. 5 in the NW cor. NE NW, Section 1-26-1w, southwest of the Valley Center Pool, in Sedgwick County, was expecting to reach the Simpson in the next few days. It was drilling at 3,320 feet, Deccember 13. Same company's No. 1 Moore, SE cor. NW, Section 17-28-1, northwest of the Robbins Pool, was underreaming at 2,822 feet. The chat pay horizon is expected to be found at 3,000 feet.

Eastern Fields

Operations in eastern Kansas are increasing, Greenwood County leads in new work and Elk County second; Lyon and Chase Counties next. Since Bird, Hanley & Sheedy developed production in Section 30-20-10, Lyon County, one of the most important tests southwest of Emporia is the Rees Drilling Co.'s test north and east of the above well. The test is 1½ miles northeast of the discovery well and is located in Section 16-20-10.

Butler County

Aladdin Petroleum Co. made location for No. 2 Klingler, NE cor. SW NE, Section 24-27-3. Empire Oil & Refining Co.'s No. 2 Marshall "D," NW cor. NE SE, Section 15-27-6, has been abandoned at 3,101 feet.

Chase County

Polhamus and others' No. 3 Leedy, CSL NW NW, Section 36-22-9, is rigging up. Selby Oil and Gas Co.'s No. 9 Shambaugh, NE cor. SE, Section 35-22-9, has been completed for 30 bbls. in sand 2,454-80 feet.

Chautauqua County

Griffin & Bell's No. 7 Oliver, NW cor. SW SE, Section 1-32-10, is rigging up.

Coffey County

Darby Petroleum Corp.'s No. 1 Scott, SE cor. NW, Section 13-23-14, has been abandoned at 1,644 feet.

Elk County

Flemming and others made location for No. 1 Shrader, NW cor., Section 16-29-9. Mann and others' No. 1 Hazlett, C SW SE, Section 12-31-8, is rigging up.

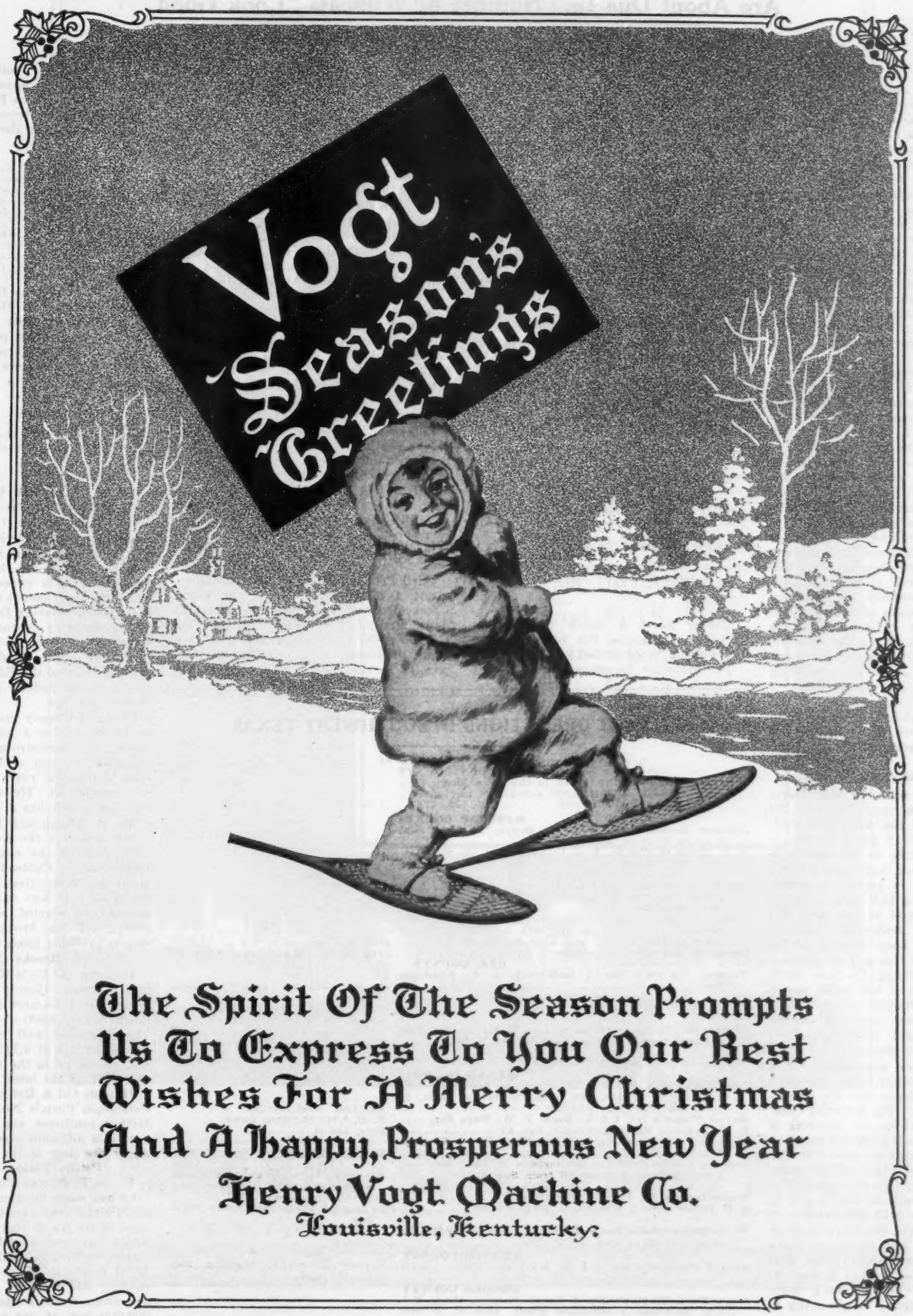
(Continued on Page 76)

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless otherwise marked)

Company, farm and location—	Remarks:
BARBER COUNTY	
Skelly Oil Co.'s No. 1 Temple Ranch, Sec. 13-34-15w	Drlg. 4,425 ft.
Robertson et al's No. 1 Powell, SE cor. SE Sec. 11-32-10w	Total depth 3,650 ft.; 5,000,000 ft. gas.
BARTON COUNTY	
Prairie's No. 1 Davidson, NW SE Sec. 4-16-11w	Rig on ground.
Allison & Fitzwilliams' No. 1 Brodie, NE cor. Sec. 19-16-12w	Shut down 2,950 ft.
Slick et al's No. 1 Sweeney, SW NE Sec. 23-17-11w	Drlg. 1,585 ft.
Everett & Wiley's No. 1 Ward, NW cor. SW Sec. 12-20-13w	Shut down 3,948 ft.
BUTLER COUNTY	
Lario O. & G. Co.'s No. 1 Hill, SW SE Sec. 1-27-4	Drlg. 2,870 ft.
Lario O. & G. Co.'s No. 1 Miller, NE SE NE Sec. 36-26-3	Drlg. 2,345 ft.
Martin et al's No. 1 Flanigan, C SW SE SW Sec. 29-27-3	Drlg. 1,355 ft.
Stroub & Dutton's No. 1 Kirby, SE SW Sec. 12-28-3	Drlg. 2,020 ft.
Valley Osage's No. 1 Sirs, SE cor. Sec. 34-23-3	Shut down 2,600 ft.
CHASE COUNTY	
Steinbuckel et al's No. 1 Stephenson, NE SW Sec. 4-20-6	Drlg. 380 ft.
Steinbuckel et al's No. 1 Cook, SE cor. Sec. 31-19-8	Spudding.
Empire's No. 1 Newman, SE NE Sec. 24-20-9	Spudding.
E. W. Marland, Inc.'s No. 1 Altemus, SE NE Sec. 33-18-6	Drlg. 1,500 ft.
CLAY COUNTY	
Chrisler et al's No. 1 Tivier, SW cor. Sec. 19-8-3	Shut down 50 ft.
Derby Oil Co.'s No. 1 Meimueller, C NW SW Sec. 9-10-3e	Underreaming 3,045 ft.
Skow Bros.' No. 1 Strud, SW SE Sec. 16-9-4	Shut down 2,510 ft.
COWLEY COUNTY	
Edenfield & Fair's No. 1 Wallace, CWL NE Sec. 17-34-4	Spudding.
Fine et al's No. 1 Brown, SE cor. Sec. 8-32-4	Rig.
Prairie's No. 1 Leighty No. 1 Ball, SW SE Sec. 4-30-5	Drlg. 1,800 ft.
A. M. Landon's No. 1 Wheeler, C SW NW SE Sec. 24-30-4	Drlg. chat 2,945-89 ft.; hole full water; total depth 2,991 ft.; abandoned.
Milton & Mead's No. 1 Tatum, SE cor. SW Sec. 11-31-6	Drlg. 1,600 ft.
Roth & Farrout's No. 1 Thompson, NE SE Sec. 31-31-8	Drlg. 1,620 ft.
Shawver et al's No. 1 Oldham, NW SE Sec. 23-32-3	Drlg. 3,150 ft.
COFFEY COUNTY	
Cross et al's No. 1 Fessen, SW NE Sec. 33-22-14	Drlg. 200 ft.
DICKINSON COUNTY	
Cress' No. 1 Sanden, NE cor. Sec. 12-15-2	Rig on ground.

(Continued on Page 104)



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Two More Oil Wells in Darst Creek

Number of Tests Has Increased to Over 30 and Four Are About Due In. Number of Wildcats "Look Good"

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Dec. 16.—Both the Trinity Drillers and Clements' No. 1 Rand Miller and the Turman Oil Co.'s No. 1 Rand Miller, in the Darst Creek Field in Guadalupe County are oil wells and to all appearances good ones. The tests were drilled in about the middle of the week and came in making oil. They are also making little water which was a common experience with most wells in the Luling Field which also produced from the Edwards lime. In fact water in the Luling Field is now held to be responsible for the big oil production.

Considerable increase in drilling activity in the Darst Creek Field and continuation of a number of wildcats to "look good" were among the major features of the week in Southwest Texas. Late in the week the Grayburg Oil Co. was to drill out the plug in its No. 1 Wells several miles south of the Darst Creek discovery well but on a structure paralleling that of the Darst Creek Field. One of the features about this well is that at 3,902 feet it had a 5-foot saturated core in the Edwards lime showing high gravity oil. Some theories place this test on the downthrow side of the fault but under those conditions the saturated core with no indication of water would seem to mean that a new location to the southeast would get on the upthrow side of the fault with chance for much greater production. It is an interesting test and Grayburg has surveyed for a pipe line from the well to its Luling-San Antonio line and if it gets a well will make short work of connecting up and starting a vigorous drilling campaign.

Over 30 Tests

The number of tests in the Darst Creek Field has increased to over 30 and two features of the week were failure of Jake Jarman to get a permit to drill on a 20-foot strip on the west side of the Dallas Wilson lease and success of Turman Oil Co. in getting a permit to drill on a strip a half mile south of the discovery well and in line with the supposed trend of production. Turman Oil Co. is already busy drilling on its location and Empire Gas & Fuel Co. and Humble Oil & Refining Co. are starting offsets. This is a half mile southwest of nearest production and will start development in a new spot and success in getting production will necessitate quite a group of new wells.

Jake Jarman made application for a permit to drill a 20-foot strip adjoining the Dallas Wilson lease and the discovery well on the west. The Railroad Commission delayed decision on granting a permit to give Jarman a chance to clear title and major companies agreed in the meantime not to drill adjoining the tract. Later, however, they began preparing to drill and late last week Jarman began to move in material to drill his location.

Midway between the discovery well on the southwest and the group of wells around the Magnolia's No. 1 Rand Miller, the Sun Oil Co. started a test in the south corner of the Knoblock tract and The Texas Company is offsetting it on the southeast, Humble offsetting it on the southwest and Humble is also offsetting The Texas Company test on the southwest. This starts still another drilling center in the field. Between the Magnolia's No. 1 Rand Miller and the same company's No. 1 Appling on the northeast, the Trinity Drillers have brought in their No. 1 Rand Miller and Turman Oil Co. its No. 1 Rand Miller, each good for several hundred barrels, according to first estimates, and The Texas Company will have two offsets to the northwest of them which it will no doubt drill at once.

Four Tests Due

In addition to the two completions of the week, there were four tests late the past week that had passed the top of the chalk and were due to be added to the producing column by the end of this week. These were the Kirby Petroleum Co.'s No. 1 Rand Miller, and the Magnolia Petroleum Co.'s No. 1 Dix, No. 2 Dix, No. 1 Klein.

Darst Creek Field at this time consists of seven producing wells, two of them shut in, and a sixth test in the pay ready to be brought in. Two of the producers were brought in the past week and are waiting for pipe line connections. Pipe line runs for the month of November show as follows:

	Daily average	Bbls. total prod.
Penn-Simms' No. 1 Manford	780	23,400
The Texas Company's No. 1 Dallas Wilson	284	8,520
The Texas Company's No. 1 L. Anderson	224	6,720
Magnolia Petroleum Co.'s No. 1 Appling	shut in	....
Magnolia Petroleum Co.'s No. 1 Rand Miller	shut in	....
Totals	1,288	38,640

United North & South Development Co.'s No. 1 Thomas Dix is in the pay and waiting to be drilled in.

The Mundine Investment Co.'s No. 1 Echols, in the northeast part of the field and 2,200 feet south of the Magnolia Petroleum Co.'s No. 1 Appling, which for a time looked as though it had a chance, is this week down to 2,783 feet and flowing considerable sulphur water, after topping the Edwards at 2,763 feet. Top of the Edwards in the discovery well is at 2,611 feet, so the Mundine test looks hopeless.

In the Darst Creek Area

Around the Darst Creek Field interest is still clinging to the Pagenkopf & Kennon's No. 1 Halm in the Joseph Kent Survey, some several miles west of the Darst Creek Field. At 1,944 feet late last week it went into the dobe above the Edwards lime. It has seemed to be running high according to comparisons with other wildcat tests in that district and has been showing some oil and gas all through the Austin chalk. It was taking a core at last accounts.

Interest is also still clinging to the Adams & Lyles and W. J. Walton's No. 1 Zoboroski, across the Guadalupe River to the south and some 2½ miles to the northwest of the apparent trend of the Darst Creek Field. It topped the chalk at 2,322 feet with an elevation of 476 feet and at 2,485 feet tested good for about 15 to 20 bbls. of oil with the bottom of the hole in the Eagleford. It is being carried on down to the Edwards lime.

Shell Petroleum Corp.'s No. 1 Denman, about 4 miles southeast of the Darst Creek discovery well, late last week was down around 2,000 feet. It and the Grayburg Oil Co.'s No. 1 Wells, if they make producers, will prove a structure parallel to the Darst Creek structure on the southeast. In another week the Shell test will be at an interesting depth.

Luling Area Production

Pipe line runs from the pools in the Luling area during the month of November were as follows:

Pools—	No. wells	Bbls. daily av.	Bbls. ttl. prod.
Lytton Springs	281	874	26,190
Dale	39	464	13,920
Yoast	23	1,009	30,270
Darst Creek	5	1,288	38,640
Luling	593	10,955	328,650
Bruner	277	38,748	1,162,440
Total	1,218	53,338	1,600,110

Three wells in the Buchanan Pool 2½ miles southwest of the Dale Field are included in the Dale Field runs. This is a new serpentine producing spot and the runs from the three wells during November was as follows:

	Bbls. daily av.	Bbls. ttl. prod.
The Texas Company's No. 1 Cude	15	450
Al Buchanan's No. 1 Brown	23	690
Al Buchanan's No. 1 Cude	12	360
Total	50	1,500

Caldwell County

Neuman & Speer have made an oil well out of their No. 1 McConnell in Caldwell County in the Al Buchanan Pool, 2 miles southwest of the Dale Pool. On the pump at 1,945 feet it has been making 25 to 30 bbls. but is expected to do better. This new pool consists now of four producing wells, producing from the serpentine. The interesting feature of the field is seeming evidence that there is a fault line that offers good inducements for drilling down to the Edwards lime, though not in the immediate vicinity of the producers, perhaps.

Caldwell County promises as the years go by to develop a number of producing spots. Pat Armstrong has worked with an area just east of Lockhart and some tests drilled in years past have shown considerable oil. He is still working with one test which has a fishing job.

W. E. Allaun and Pat Armstrong are going back into the No. 1 Martni, a half mile west of the nearest Bruner Field production in Caldwell County, and will shoot it. When first drilled it showed a lot of oil. It was one of the first tests drilled and started soon after the discovery well was brought in. Its production is probably from the chalk.

Brooks County

Houston Oil Co.'s No. 1 Wormser-Holbien in Brooks County and 600 feet south of its No. 1 Lasater discovery well, was down below 3,800 feet late last week. The discovery well came in for a big volume of gas at 4,115 feet. The second test should be in the pay by the close of this week at the latest.

Humble Oil & Refining Co.'s and Shell Petroleum Corp.'s No. 1 Singer, 7 miles farther southeast and on what they expect is a different structure, was rigging up at the close of the past week.

Pettus Field—Bee County

Union Producing Co. (Mission Drilling Co.) has made location for No. 5 Ray in the Pettus area about a mile north and west of its No. 3 Ray in Goliad County, which has been abandoned. It has also started drilling No. 6 Ray which is about 1,200 feet east of No. 2 Ray, discovery well in Bee County. No. 2 and No. 3 are about 3 miles apart. No. 3 had 5,000,000 feet of gas and some water at around 4,100 feet and No. 2 is a big gas well at 2,900 feet.

There is now quite a little activity in that area. F. P. Zoch's No. 1 Kaufmann in Goliad County set 4½-inch casing at 4,186 feet and is getting ready to drill in

(Continued on Page 131)

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

Week ended December 14

ATASCOSA COUNTY

Alexander Boynton's No. 1 fee in the John Sharp Sur., 3,645 varas E W line, 2,070 varas S N line of Sur., SW end of Somerset Field ..... 2,000 ft. in Austin chalk.

BASTROP COUNTY

Johnson Brother's No. 1 W. C. Bryan, Stidham Sur., 5 miles W from Red Rock ..... Chalk 2,020 ft.

B. L. Batts et al's No. 1 A. L. Alexander, W. M. Eastland Sur., 1,350 ft. from W line, 750 ft. from S line ..... Drlg. in shale 1,150 ft.

Humble Oil & Refining Co.'s No. 1 C. W. Corbell, J. G Lentz Sur., 150 ft. to NE line of lease, 4 miles N from Red Rock ..... Location.

Abernathy et al's No. 1 A. Aldridge in the Martha Barker Sur., 2,750 ft. SE and 450 ft. NE of 241-ac. tract or 2,000 ft. SW and 4,500 ft. NW of Sur. ..... Rigging up.

Owens et al's No. 1 Goodman ..... Top Buda; shut down 2,540 ft.

BEE COUNTY

Houston Oil Co.'s No. 1 McKinney, L. C. Randolph Sur ..... T. D. 3,625 ft.; drlg. in sticky shale.

The Texas Company's No. 2 Tipps ..... T. D. 420 ft.; drlg. in shale; now shut down.

Nichols et al's No. 2 Hicks in Jose Maria Uranga Survey, 600 feet to N. line, 2,000 feet to W. line ..... Closed in; estimated 1,500,000-ft. gasser.

The Texas Company's No. 3 Tipps ..... Location.

BEXAR COUNTY

Burton Oil Co.'s No. 1 P. H. Shook, in Monjares Sur., 3,150 ft. to E line, 150 ft. to N line of farm, 10 miles SE from San Antonio ..... Erecting steel derrick.

Guy G. Fisher's No. 1 S. L. Beck, P. W. Hays Sur. ..... T. D. 1,002 ft.; shut down.

F. H. Eckert's No. 1 Sandemer, Sur. 52 ..... Drlg. 615 ft.

Penn-Tex Oil Co.'s No. 1 Kate May, F. R Desauge Sur. No. 134 ..... Drlg. in Georgetown lime 2,060 ft.

Ross E. Fenton Co.'s No. 1 Clarence V. Uhl, 150 ft. to S and W lines, 6 miles SE from San Antonio ..... Location; failed to get water well arranging to lay a water line.

Moore-Jauer's No. 1 Holly R. Ellison ..... Set and cmtd. csg. 1,803 ft.

E. G. Potter's No. 1 Watson, B. Martinez Sur. ..... T. D. 2,509 ft.; bailing every other day.

W. C. Sutherland's No. 1 J. Halberdier, Survey 57, located 150 E of Cen of W. line ..... Location.

BLANCO COUNTY

Ashe & Marshall's No. 1, 5 mi. S Johnson City ..... Survey corrected; erecting National rig.

BROOKS COUNTY

Amos Dinn, Trustee's No. 3 Garcia-Ramosi, share B-1, Las Mestenas y Gonzales grant, 1300 ft. S line, 2,325 ft. W line of share B-1 ..... T. D. 1,401 ft.; waiting on fuel oil; test of drill stem showed very small volume of gas.

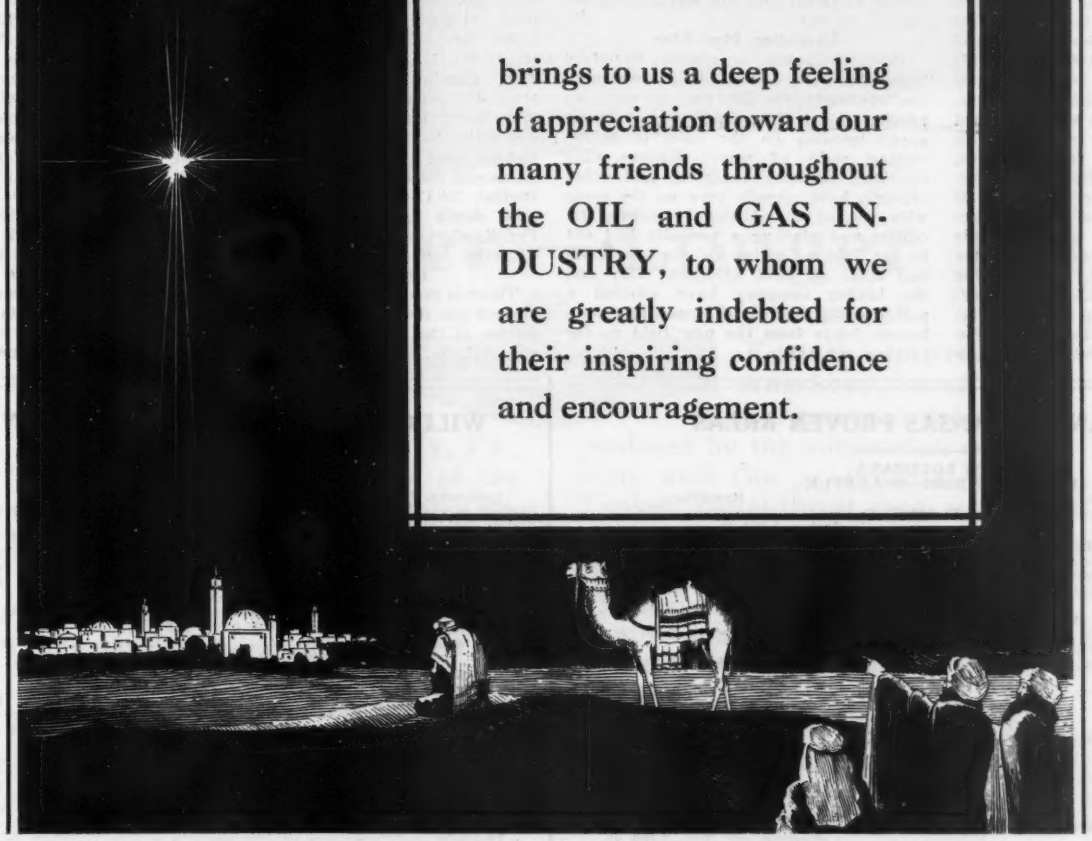
Milam Drilling Co.'s (No. 5 core test) (No. 10 deep test) Jerry Reiley, San Antonio grant, SW Brooks County ..... Drlg. 1,700 ft.

Humble Oil & Refining Co. & Shell Petroleum Co's No. 1 Singer, Alta Verde Subd., 2,500 ft. S of N line, 333 ft. W of E line of Sec. 312 ..... Rigging up.

(Continued on Page 128)

Our First . . . Christmas

brings to us a deep feeling of appreciation toward our many friends throughout the OIL and GAS INDUSTRY, to whom we are greatly indebted for their inspiring confidence and encouragement.



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Drilling Campaign Starts at Zwolle

Discovery Well Holding Up. New Locations Made and Acreage Deals Indicate More Activity. Drilling for Natural Gas

By D. H. Bancroft
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Dec. 16.—Developments in the Zwolle district of Sabine Parish followed each other rapidly during the past week and the drilling campaign inevitably following completion of the discovery well of a new pool of sizeable proportions is getting under way with indications of a series of completions soon after Christmas. The rush for acreage continues and numerous trades of large proportions have been concluded. Confirmation of the Ohio Oil Co.'s purchase of 1,000 acres around the well from the Bowman-Hicks Lumber Co. appeared in the staking of two locations one-half mile east and west of the producer in Sections 33 and 35-8-12, both of which wells will be under way before this appears in print.

R. L. Gay, trustee, also has another well, No. 20-A Bowman-Hicks, in Section 3-7-12, a half-mile south of the discovery gusher. The latter continues its 3,000 bbls. through a quarter-inch choke and is rated at 15,000 to 20,000 bbls. wide open. Until additional pipe line and storage facilities are available, however, it is scarcely likely that it will be opened any farther and possibly not then. In addition to the Gay and Ohio locations, Olsan Brothers' No. 1 Keelen, in Section 27-8-12, has begun drilling, the four new wells affording a test in all directions from the producer. Gay also made location for two more wells in the Blue Lake area of the district, No. 3 Sabine Lumber Co., in Section 13-7-14, a quarter-mile east of his group of producers, and No. 6 Bowman-Hicks, in Section 14-7-14, a half-mile northwest, and has derricks up on both. No. 5 Bowman-Hicks, in the SE cor. of the same section, which blew off temporary fittings lightly attached and flowed for a while at an estimated rate of 1,000 bbls., settled down after working off the head and was completed, flowing 75 bbls. through 2-inch tubing.

Following the Ohio lease Standard Oil Co. bought 280 acres of the Bowman-Hicks acreage in Section 2 and 5-7-12, east and west of the well, and 25, 27 and 28-8-12, to the north and east. What it paid was not revealed but this close-in acreage has been selling for $200 to $250 an acre. Lion Oil Refining Co. paid the latter for an "80" in Section 32-8-12. The first trade by Gay announced since the gusher was of four "40's" scattered around the well to Ruston Drilling Co. for $40,000. The biggest trade yet made, however, was by Sam Hunter and the Sabine Lumber Co., Hunter taking a spread of 10,000 acres scattered in and all around the Loring and Blue Lake areas of the Zwolle district for a reported $150,000 and five wells to be begun in 90 days.

Extending Pipe Line

While the gusher is crowding Standard Pipe Line Co.'s 4-inch line, the company has approximately 500 men at work on another 6-inch line, ditching and laying gangs treading on the heels of others cutting right of way. Kansas City Southern Railway engineers and other officials have already been on the scene with respect to additional trackage facilities and platting a townsite laid out by the Sabine Lumber Co. for warehouse and other oil field adjuncts. Gay and the lumber company have adopted a policy which bars barrel houses and hamburger joints from the new field as far as they are able.

All this activity in the new area has distracted attention from what is going on in other parts of the division, but several important developments taking place during the past few days are not overlooked. In the Carterville district of Bossier Parish, much deepening of old gas wells for production tapped a couple of weeks ago is scheduled. Muslow Oil Co.'s No. 1 Peyton, Section 30-23-11, is the first of these, since the discovery, to make a test following a good show, and a wildcat in Section 20-19-13, G. G. Nesbit's No. 1 Leonard, 9 miles north of Shreveport, created considerable of a stir by showing for a potential good producer.

Palmer Corp.'s No. 1 Eubanks, Section 36-17-6, a deep test a half-mile south of Hope Production Co.'s No. 1 Eubanks, the deep sand discovery well in the Richland Parish Field, is arranging for a test at 3,118 feet. The Hope well was completed at 2,942 feet, gauging over 7,000,000 feet of gas, but the Palmer well was dry at 2,917 feet. Shreveport Contractors' No. 1 Buie, four or five miles southeast of production, tested salt water at 2,361 feet and is drilling below 2,400 feet. Industrial Gas Co. completed No. 1-A J. A. Hemler, Section 12-16-6, gauging 39,313,000 feet of gas, total depth 2,450 feet, and No. 1 Rayville State Bank, in the same section, was estimated at 40,000,000 feet in round figures from the same depth. Northern Louisiana Natural Gas Co.'s No. 1 Pipes, Section 34-17-6, gauged 1,387,000 feet, total depth 2,450 feet, and No. 1 A. Purvil, also in the same section, gauged 4,029,000 feet, total depth 2,451 feet.

Drilling for Gas

There is much drilling in Richland and Monroe gas districts preparatory to completion of the big gas lines to St. Louis and Atlanta. The former is completed so far as construction is concerned and is testing, while the latter is testing as sections are completed and completion is not far off. In Ouachita Parish, Austin & Jordan completed No. 1 Albright, Section 13-18-3, making 1,500,000 feet of gas from 2,268 feet, and She-Van Gas Producing Co. completed No. 2 West Virginia, Section 8-18-4, gauging 2,808,000 feet, total depth 2,219 feet. J. L. Bullock trustee's No. 1 West Virginia Timber Co., in Section 25-18-5, scheduled for a 4,500-foot test, ran sand tester at 2,338 feet and got a show of 500,000 feet of gas and is going deeper. Interstate Natural Gas Co.'s No. 23 Fee, Section 33-20-3, Union Parish, gauged 3,500,000 feet of gas, total depth 2,276 feet.

Dixie District

Two wildcats in the Dixie district of Caddo Parish, 9 miles north of Shreveport, were written off and a third well, in proven area, was a small producer. Lide and others' No. 1 Levee Board, Section 24-19-14, a mile south and west of production, was dry and abandoned at 2,500 feet and Planters Oil Co.'s No. 1 Pittman, Section 23-19-14, approximately three miles southeast of producing wells, was abandoned on account of salt water at 2,585 feet though it showed a small amount of oil. An old well in the opposite southeast corner of the same quarter section was abandoned at 2,600 feet for the same reason, but, like the Pittman well, showed oil but in larger quantities. Standard Oil Co.'s No. 4 School, Section 16-19-14, pumped 80 bbls. from 2,439 feet.

Benson Oil Co.'s No. 1 Hill, Section 4-10-13, DeSoto Parish, the first deep test in the Benson district, where production was obtained several months ago in a shallower test, cored 14 feet in the

(Continued on Page 111)

LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA
BOSSIER PARISH—BELLEVUE

Company, farm and location—	Remarks—
H. L. Morgan's No. 2 Wetherbee, 3,811 ft. E, 200 ft. S, NW cor., Sec. 28-19-11	Coring 2,292 ft.

BOSSIER PARISH—CARTERVILLE

Del.-Lal. Dev. Co.'s No. 5 Bollinger, Sec. 31-23-11	Cmtd. 6⅝-in. 3,140 ft.
Goodman-Johnson's No. 1 Martin, 330 ft. S, 330 ft E, NW cor. SE, Sec. 26-23-12	Tested S.W; show oil and gas 3,160 ft.
Magnolia Pet. Co.'s No. 1 M. A. Rogers, 660 ft. S, 660 ft. W, NE cor. NE SE Sec. 21-23-12	Coring sandy shale 3,151 ft.
Magnolia Pet. Co.'s No. 1 Robertson, 412 ft. S, 660 ft. E, NW cor. SW NE, Sec. 26-23-12	O.W.D.D; rigging up to deepen; 3,058 ft.
Muslow Oil Co.'s No. 1 Barnett, 1,320 ft. W, 660 ft N, SE cor., Sec. 25-23-12	Cmtd. 6-in. 3,140 ft; 3-ft. sand 3,143 ft.
Muslow Oil Co.'s No. 1 Kilgore, 2,080 ft. N, 1,980 ft. E, SW cor., Sec. 31-23-11	O.W.D.D; arranging to deepen; T.D. 3,078 ft.
Muslow Oil Co.'s No. 1 Mark Myer, 1,980 ft. N, 330 ft W, SE cor., Sec. 36-23-12	O.W.D.D; arranging to deepen; T.D. 3,088 ft.
Muslow Oil Co.'s No. 1 Peyton, Sec. 30-23-11	Setting 4½-in. to test 1-ft. sand showing oil; T.D. 3,126 ft.
Northwest La. Gas Co.'s No. 5 Bolinger, 252 ft. E, 200 ft. S, NW cor. Lot 7, Sec. 31, in Sec. 38-23-11	Rigging up.
Nat. Gas Prod. Co.'s No. 1 U. S. Govt., 660 ft. N, 660 ft. W, C Sec. 31-23-11	Cmtd. 4½-in. 3,139 ft; 1-ft. sand; 2-ft. sandy shale, 3,150 ft.
R. G. Smitherman, trustee's No. 1 Kilgore, 1,310 ft. E, 675 ft. S, NW cor., Sec. 31-23-11	O.W.D.D; rigging up to deepen: T.D. 3,062 ft.
The Texas Co.'s No. 3 Hy. Rose Merch. Co., 4,126 ft. E, 1,520 ft. S, NW cor., Sec. 31-23-11	Rigging up.

BOSSIER PARISH—ELM GROVE

La. Gas & Fuel Co.'s No. 2 Murff, 1,980 ft. S, 660 ft. W, NE cor. Sec. 24-17-12	Began drlg. Dec. 8; cmtd. 12½-in. 129 ft; drlg. 709 ft.
La. Gas & Fuel Co.'s No. 4 Thigpen & Herold, 660 ft. N, 660 ft. W, SE cor. Sec. 12-17-12	Began drlg. Dec. 9; cmtd. 12½-ft. 125 ft.

CADDO PARISH—GREENWOOD

Calatex O. & G. Co.'s No. 1-A Agurs, 819 ft. S, 157 ft. E, NW cor. SW, Sec. 7-16-16	Arranging to cmt. 6⅝-in. 2,800 ft.
Eastern Carbon Co.'s No. 1 Z. Abney, Sec. 8-17-16	Drlg. 2,600 ft.

CADDO PARISH—HOSSTON

Bayou State Oil Corp.'s No. 28 Jolly, 500 ft. N, 150 ft. W, SE cor. NE, Sec. 22-22-15	W.O.S.R. 1,004 ft.
Bayou State Oil Corp.'s No. 29 Jolly, 425 ft. W, 775 ft. N, SE cor. NE	Rigging up.
Bayou State Oil Corp.'s No. 18 Levee Board, 450 ft. N, 150 ft. E, SW cor. NW, Sec. 23-22-15	W.O.S.R; T.D. 1,003 ft.

(Continued on Page 124)

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

NORTH LOUISIANA
BOSSIER PARISH

Company, farm and location—	Remarks—
Corbett et als' No. 1 Murff, SE cor. NE, Sec. 18-17-11	S.D. 990 ft.
Simon Goldman's No. 1 McFarlin, SE cor. SW, Sec. 7-19-13	Tested S.W; show oil 1,000 ft.
Neil & Lanier's No. 1 Biedenharn, SE cor., Sec. 23-21-14	W.O.S.R.; 980 ft. oil in hole; T.D. 998 ft.; arranging to re-test at 998 ft.
S. P. Lanier's No. 1 Le Rosen, 300 ft. S., 1,600 ft. W, NE cor. Sec. 26-21-14	Derrick.
G. D. Nesbit's No. 1 Leonard, 1,900 ft. N, 957 rt. E, SW cor. Sec. 20-19-13	D.S. test 2,543 ft; showed oil and gas; cmtd. 6⅝-in. 2,538 ft.
Old River Oil Corp.'s No. 1 Byrd, 300 ft. E, 300 ft. S, NW cor., Sec. 14-19-14, formerly carried in Dixie district of Caddo Parish	Cmtd. 1 ft. sand; arringing drill stem test 2,446 ft.
Walker et als' No. 1 Antrim, NW cor. SE, Sec. 28-22-13	Tested dry; W.O. 3,184 ft.
Woodmansee et als' No. 1 Bollinger, SE cor. NE, Sec. 9-22-11	Dry and abd. 3,532 ft.

CADDO PARISH

R. W. Norton's No. 1 Hill, 630 ft. N, 1,260 ft. W, SE cor. NE. Sec. 33-23-16	Drlg. hard lime 4,247 ft.
I. N. Pharies, trustee's No. 1 Oden, NE cor. SE NE, Sec. 16-19-14	S.D. 2,322 ft.; topped sand at 2,396 ft.; set 6⅝-in.; T.D. 2,409 ft.
Woodley Pet. Co.'s No. 5-A Knight, 26,185 ft. E, 660 ft. N, SW cor. Township 16-12	Location.

CATAHOULA PARISH

Lochnager Pet. Co.'s No. 1 Taliaferro, 572 ft. E, 396 ft. S, C, Sec. 26-9-6	S.D. 900 ft.

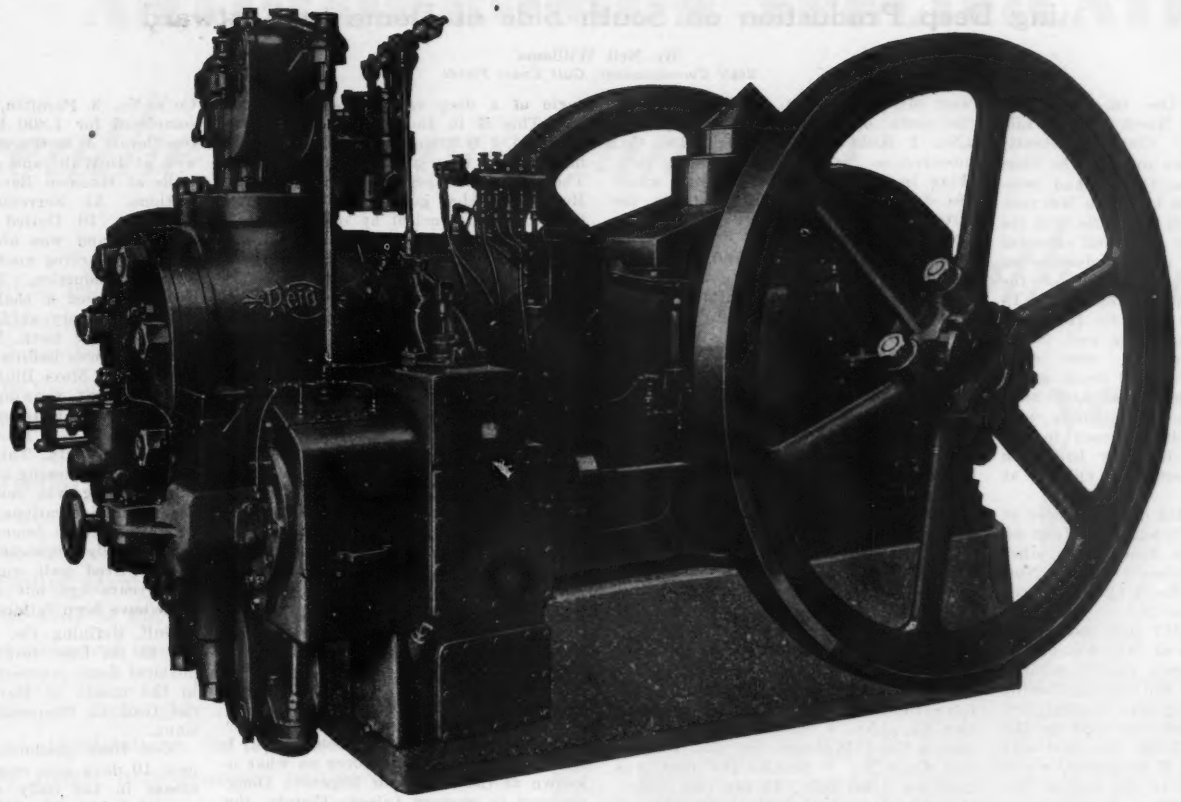
CLAIBORNE PARISH

El Dorado Chief Oil Co.'s No. 1 Dance, C SW NE, Sec. 27-20-7	S.D. 2,240 ft.
Leue Oil Co.'s No. 1 Taylor, Sec. 16-22-6	Derrick.
Triangle Drlg Co.'s No. 1 Kilpatrick, 660 ft. S, 660 ft. E, NW cor. SW NE Sec. 7-19-5	Drlg. lime and shale 3,725 ft.

DE SOTO PARISH

Benson Oil Co.'s No. 1 Harris, Sec. 6-10-13	Drlg. 2,805 ft.
Benson Oil Co.'s No. 1 Hill, 1,345 ft. S, 1,200 ft. W, NE cor. Sec. 4-10-13	Drlg. 2,783 ft.
P. J. Becker, trustee's No. 1 Tull, SW cor. NE NE, Sec. 23-12-15	Fishing 7 joints drill stem; T.D. 2,475 ft.
Longstreet Synd.'s No. 1 Ramsey, NE cor. SW NE, Sec. 33-13-16	Changing to heavy rig and arranging to sidetrack; T.D. 2,302 ft.
Magnolia Pet. Co.'s No. 1 Anna Mason, 990 ft. S, 990 ft. E. NW cor. SW Sec. 27-12-11	Coring 2,937 ft.
R. O. Roy's No. 1-B Farmer, 660 ft. S, 660 ft. E, NE SW, Sec. 8-13-13	Derrick.

(Continued on Page 126)



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TIMKEN *Tapered Roller* **BEARINGS**

North Dayton Well Flows 4,000 Bbls.

Formerly Abandoned Wildcat Test Offers Surprise, Extending Deep Production on South Side of Dome to Eastward

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Dec. 16.—A formerly abandoned test at North Dayton, Liberty County, recently taken over by the Harrison Oil Co. and deepened less than 500 feet, made a prolific well the past week and extended the deep production on the south side of the dome approximately 1,200 feet to the eastward. The well, No. 1 Bladerack, was completed in a sand at a total depth of 5,108 feet flowing an estimated 4,000 bbls. of 41.2 gravity pipe line oil daily with eight joints of 4¼-inch screen in the hole. The wildcat formerly had been abandoned by the Fort Bend Oil Co. at 4,637 feet in shale.

The well is the third deep producer at North Dayton all of which have been on the south side of the dome. The other two wells were Harrison Oil Co.'s Nos. 1 and 3 Quintette. No. 1 Quintette was only a small well but No. 3, completed in July, 1928, at 4,317 feet flowing 5,200 bbls. of pipe line oil daily has proved one of the Gulf Coast's most consistent deep sand producers and still is flowing 250 bbls. daily, having been worked over only once. The Bladerack well, in the H.&T.C. Survey, is 1,200 feet east and 50 feet north of No. 3 Quintette, which was a short distance to the east of No. 1, no longer producing.

As most of the acreage in the deep sand area on the south side of North Dayton is in the hands of Harrison Oil Co. there has been and there probably will be no active drilling development there. Since the discovery of the deep production there have been only three other deep tests drilled at North Dayton in addition to the producers named although the deep production is of considerable interest in view of the fact that North Dayton is one of the oldest domes on the Gulf Coast on which virtually all the development has been confined to the shallow sands on top of the dome which have yielded relatively unimportant production in the form of only small pumpers.

However, the extension by John Deering several weeks ago of shallow sand production to the far east side of the dome by a 125-bbl. well together with this latest movement of the deep flank sand production to the eastward would indicate unlimited favorable possibilities in that direction for North Dayton, a dome which in the past has been looked upon as a disappointment.

Port Neches Producer

The third producer for the new field opened this year in the swamps of southwestern Orange County near Port Neches was completed by The Texas Company during the week bringing that field's daily production to above 3,700 bbls. This well, No. 1 Polk, the west offset to the discovery well, came in flowing an estimated 1,800 bbls. daily but in the second 24 hours increased its output to 2,200 bbls. on the three-quarter-inch choke. Production is from a sand at 3,146 feet with two joints of screen. The oil is 21.7 gravity and the temperature of the well 75 degrees and the pressure 200 pounds.

So far this field has a 100 per cent record in successful completions, and considering this good showing and the possibility of deeper sands before going into the salt, if a dome exists here, this area is expected to become one of the Gulf Coast's most important pools. The Texas Company is getting ready to start drilling on its fourth test, No. 2 Polk, the west offset to No. 1 Stark, which was the south offset to the discovery well (No. 1 Kuhn). Gulf Production Co., however, so far has failed to find anything in its No. 1 J. H. Stark which has drilled to below 5,500 feet but the latter is some distance west of The Texas Company's holdings.

Starks Dome Well

The shallow sand pool on top the Starks Dome of Calcasieu Parish, Louisiana, was further proved by the completion by the Gulf Refining Co. of its second shallow well, No. 17 Lutcher-Moore, good for 100 bbls. of 17 gravity pipe line oil at 732 feet. Finding of this shallow production follows several years of unprofitable drilling around the dome, chiefly in the flank sands in which some production has been obtained.

One of the Gulf Coast's best wells of the week was Rio Bravo Oil Co.'s No. 16-A Settegast on the southwest side of Pierce Junction completed flowing 3,200 bbls. daily from shale at 4,291 feet with one joint of screen. This well flowed only 300 bbls. the first 24 hours but the second day jumped its output to 3,200 bbls.

Three More at Barbers Hill

The deep sand play on the east and south sides of Barbers Hill added three more producers, Mills Bennett Production Co.'s No. 4 Smith, the same company's No. 1 Wilburn, and Gulf Production Co.'s No. 1 Smith. The first was good for 2,600 bbls., 15 per cent water, the second approximately 1,000 bbls. of oil and the third 350 bbls. of oil. Four other deep wells either were testing or standing with casing cemented on the sand at the close of the week.

At Humble, Gardner Oil Co.'s No. 1 Perkins failed to extend production to the southwest side of the dome when it bailed salt water in a sand at 2,677 feet. The test will be deepened. Three deep tests on the south side of the dome are due in and are in line for good production.

Of much interest is the finding at Refugio of a deep sand showing oil and gas. This is in Independent Oil & Gas Co.'s No. 1 O'Brien which is setting 6⅝-inch casing to test at 6,484-6,500 feet. The previous deepest level to which any Refugio test has gone was approximately 5,400 feet, reached by only one test, Houston Gulf Gas Co.'s No. 1 O'Brien, completed as a gas well. The Independent well, an offset, failed to find the 5,400-foot sand but drilled to its present level. All production, except the 5,400-foot gas, has been from the 3,500-3,700-foot level, beyond which few tests have drilled.

Six wells, five oil producers and one gasser, comprised Refugio's contribution to Gulf Coast completions of the week. These were Refugio Oil Corp.'s No. 2 Murphy, 620 bbls. fluid, 10 per cent water; Morgan Oil Corp.'s No. 1 Johnson, 300 bbls., five-sixteenths-inch choke; Morgan Oil Corp.'s No. 1 Fox (Block 76), 700 bbls., five-sixteenths-inch choke; Union Producing Co.'s No. 1 Henry Heard, 300 bbls.; Houston Gulf Gas Co.'s No. 2 Cummings, 30 bbls., three-sixteenths-inch choke; and Houston Gulf Gas Co.'s No. 3 Tom Heard, 40,000,000 feet of gas.

Sheeks Dome Well

Following the completion early in the week of Cranfill & Reynolds' No. 1 Davis, as the fourth producer on what is known as the Sheeks or Esperson Dome prospect in western Liberty County, the same operators have drilled into a deep sand in their No. 1-A Vadjak and have cemented casing at 5,750 feet. The Davis well, in a sand at 2,336 feet, flowed an estimated 400 bbls. of pipe line oil daily initially through a three-eighths-inch choke.

Calcasieu Oil Co.'s No. 5 Lemke added better than 2,000 bbls. of flush production to the East Hackberry production and was one of the few wells which has been brought in there in the past six months. At Edgerly, Hercules Oil Co.'s No. 3 Paraffin, a workover, was completed for 1,800 bbls. at the 3,700-foot level. A workover at Hull, a small well at DeWalt, and a half dozen small wells at Raccoon Bend were other completions. At Sorrento, Gulf Refining Co.'s No. 16 United Land Co. drilled into salt and was abandoned below 3,400 feet, marking another failure to find offside production. Morris Investment Co. abandoned a shallow test in semi-wildcat territory at Humble.

Late in the week, Humble Oil & Refining Co. was bailing its wildcat, No. 6 Sterling, at Moss Bluff, Liberty County, but this was showing no oil. Another wildcat being watched was The Texas Company's No. 1 Fitzhugh at Big Hill, Jefferson County. This test was drilling into a sand showing oil below 5,050 feet where casing was cemented. The latter has strong indications of making a good well. Both these domes so far have been commercially unproductive. At Big Hill a short-lived well was obtained at one time years ago but at Moss Bluff all tests have been failures.

Gulf Refining Co. has started drilling in its first test on the new geophysical dome prospect, Bay Champagne, in the mouth of Bayou LaFourche on the Gulf in Plaquemines Parish, Louisiana.

New flush production brought in the past 10 days was responsible for an increase in the daily average output of coastal fields, the chief gain being made in Louisana fields. Figures for the week ended December 14 were:

Gulf Coast Production

Texas	
Allen	11
Barbers Hill	16,672
Batson	1,262
Big Creek	6,413
Blue Ridge	1,874
Brenham	150
Boling	1,238
Clay Creek	1,500
Damon Mound	526
DeWalt	12,198
Fannett	1,592
Goose Creek	5,310
Hankamer	241
High Island	1,372
Hull	10,362
Humble	12,376
Jasper County	25
Lost Lake	1,480
Markham	366
Nash	525
North Dayton	2,078
Orange	3,026
Orchard	92
Pierce Junction	13,990
Port Neches	2,485
Raccoon Bend	9,243
Refugio	14,475
Sheeks	463
Saratoga	988
Sour Lake	2,449
So. Liberty-So. Dayton	5,105
Spindletop	19,748
West Columbia	6,951
Total Texas Coast	156,586
Week ending Dec. 7	155,960
Decrease	626
South Louisiana	
Anse La Butte	45
Black Bayou	91
Dog Lake	6
Edgerly	739
Jennings	1,452
Hackberry	5,992
Lake Barre	348
Lake Pelto	171
Lockport	3,702
New Iberia	15
Port Barre	1,400
Sorrento	135
Starks	440
Sulphur	7,100
Sweet Lake	17
Vinton	4,272
Welsh	228
White Castle	310
Total South Louisiana	26,463
Week ending Dec. 7	22,225
Increase	4,238
Total Gulf Coast	183,049
Week ending Dec. 7	178,185
Increase	4,864

GULF COAST FIELDS AND WILDCATS

Week Ended December 14

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Production Co.'s No. 2 Collier (southwest).. Drlg. shale and lime 4,262 ft.
Mills Bennett Production Co.'s No. 2 Barber, north side.. Coring sand 5,075 ft.
Mills Bennett Production Co.'s No. 4 Smith, east side ... Comp. flowing 1,500 bbls. fluid, 15 per cent salt water, 5,257 ft.
Mills Bennett Production Co.'s No. 3 Hammon-Armstrong (southeast) ..... Bailing oil and salt water 5,166 ft.
Mills Bennett Production Co.'s No. 1 Wilburn (southeast). Comp. flowing 1,000 bbls. oil 5,035 ft.
Mills Pennett Production Co.'s No. 2 Means (east) ..... Drlg. gumbo 1,171 ft.
Gulf Prod. Co.'s No. 1 Wilburn ..... Comp. flowing 350 bbls. oil 5,210 ft.
Humphreys Corp.'s No. 8-A Kirby, north flank ..... Drlg. shale and lime 5,988 ft.
Humphreys Corp.'s No. 2-C Kirby ..... Total depth 5,361 ft.; shut down in sidetracked hole 3,310 ft.
Humphreys Corp.'s No. 1 Higgins ..... Swabbed some oil in cap rock 841 ft.; to pump.
Humphreys Corp.'s No. 1 Scott ..... Standing in salt 2,906 ft.
Humphreys Corp.'s No. 1 McLean, east side ..... Drlg. shale 2,864 ft.
Humphreys Corp.'s No. 2 Ilfrey, east side ..... Rig.
Republic Production Co.'s No. 3 Kirby (southeast)..... Total depth 5,305 ft.; cem. casing to test 5,186 ft.
Rexal Oil Co.'s No. 3 McLean, east flank ..... Rigging up to pump 5,170 ft.
Sinclair Oil & Gas Co.'s No. 2 Wilburn, southeast ..... Drlg. gumbo and lime 2,419 ft.
Sinclair Oil & Gas Co.'s No. 1 McKinney (workover) .... Coring sand 5,157 ft.
Sun Oil Co.'s No. 1 Wilburn (southeast) ..... Testing oil sand total depth 5,453 ft.; set packer 5,426 ft.
Sun Oil Co.'s No. 2 Wilburn, southeast ..... Drlg. shale and lime 5,282 ft.
Sun Oil Co.'s No. 3 Wilburn, southeast ..... Drlg. shale and lime 3,920 ft.
Sun Oil Co.'s No. 4 Wilburn (southeast) ..... Derrick.
Sun Oil Co.'s No. 2 J. Wilburn (southeast) ..... Derrick.
Sun Oil Co.'s No. 4 Chambers (south) ..... Drlg. gumbo 652 ft.
The Texas Company's No. 1 Lawrence ..... Pulling screen to deepen 5,260 ft.
Yount Lee Oil Co.'s No. 10 Chambers (south) ..... Drlg. sand and lime 2,047 ft.
Yount Lee Oil Co.'s No. 11 Chambers, south ..... Drlg. hard lime 2,062 ft.
Yount Lee Oil Co. No. 5 Woodward, southeast ..... Set casing 5,208 ft.; to test oil sand 5,237 ft.
Yount Lee Oil Co.'s No. 1 Phillips ..... Set casing 5,155 ft.; to test oil sand 5,190 ft.

BOLING—FORT BEND AND WHARTON

Houston Gulf Gas Co.'s No. 1 Fields (northwest)..... Drlg. sand 510 ft.

RACCOON BEND—AUSTIN COUNTY

Humble & Valley's No. 5 Austin College ..... Derrick.
Humble & Valley's No. 3 Beal ..... Comp. flowing 400 bbls. 3,525 ft.

(Continued on Page 130)

Barrett ANTI-CORROSION SPECIFICATIONS

sheathe your pipe lines in a tough, smooth coating that lasts for years!

IN waterproofing buildings, foundations, subways, dams, tunnels, underground metallic structures and the like, coal-tar pitch has long been recognized as the most powerful resistant to the destructive action of water, soil acids, alkalis, stray electrical currents and other corrosive agents.

The waterproofing agent used with Barrett Anti-Corrosion Specifications, is the finest quality straight-run coal-tar pitch and forms the *base* of the pipe coatings. This well-known waterproofing agent is combined with suitable binders and solvents. One of the binders used is in its original form, the finest electrical insulator known.

With all materials thoroughly mixed and applied under the most exacting specifications, the pipe line is sheathed in an exceptionally tough, homogeneous, non-porous coating which is non-absorbent, chemically inert and highly dielectric. Bonding perfectly with metal, it will not slide, sluff or become brittle.

Barrett Anti-Corrosion Specifications include also Barrett Field Service and Inspection as well as the closest and fullest co-operation from beginning to end of the pipe laying job. The reputation of such outstanding Barrett products as Barrett Specification Roofs, Tarvia Roads and Underground Waterproofings for tunnels, dams, subways, etc., is your assurance that Barrett Anti-Corrosion Specifications will provide complete pipe line protection for many years to come.

Picture above shows Barrett Pipe Enamel being applied by the "sling" method. The ready flow and instant adhesiveness of Barrett Pipe Enamel assure complete insulation against moisture no matter what method of application is chosen.

Below is shown application of Barrett Pipe enamel by revolving pipe method. Pipe turns away from pouring operation and the pad held by operator on opposite side spreads the flow to an even coating.

BARRETT ANTI-CORROSION SPECIFICATIONS

BARRETT PIPE LINE PRIMER BARRETT PIPE LINE FELTS
BARRETT PIPE ENAMEL BARRETT COUPLER COMPOUND
BARRETT COLD-COATER

BARRETT Anti-Corrosion Specifications are made to meet all the many different conditions of pipe construction. They include re-enforced enamels for extreme conditions—rivers, swamps, etc., enamels to be applied hot in less corrosive sections; cold applications for still less corrosive regions.

For information on pipe line protection you are invited to phone, wire or write. Bulletins on Barrett Anti-Corrosion Specifications are now available and can be had for the asking.

The Barrett Company

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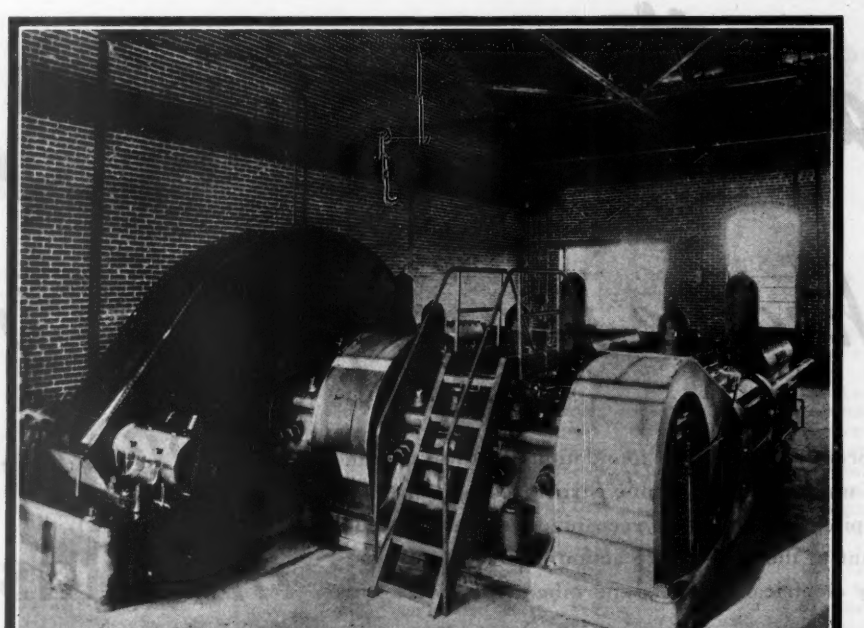

A 40,000 barrel Prescott Menominee pump in the Council Hill Station of the Oklahoma Pipe Line Co. It is designed to operate against 900 lbs. working pressure.

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The Prescott Company
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Pumps for deep mines ~ Pumps for pipe lines

OGJ 12-18 Gray

Lea County New Wells Big Gassers

Important Deep Test in Wyoming Finds Heavy Oil Flow in Sundance Sand. Drilling for Carbon Dioxide Gas in Utah

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Dec. 16.—The west side of the Lea Pool in Lea County, New Mexico is to have a test in Cranfill & Reynolds' No. 1-D State, 1½ miles from the nearest producer for which a location has been made. The Shell Petroleum Co. is abandoning its No. 1 Terry, which marked the southern limits of the Hobbs Pool. The Humble Oil & Refining Co.'s No. 2-A Lindley, in the Jal Field, will be drilled deeper after gauging 20,000,000 feet of gas and 4½ bbls. of distillates. In the area to the north of the Jal Field, the Continental Oil Co. has two wells making large flows of gas.

The Farnham Dome in Utah is to be drilled for carbon dioxide gas to be used in the manufacture of dry ice.

Locations for two important wildcats in Colorado were announced, one to be drilled on the Bell Rock structure, northwest of the Moffat Pool, by the Midwest Refining Co., and the other to be drilled on a block of 18,000 acres on the Chromo Dome in Archuleta County by the Standard Oil Co. of Colorado. The Texas Production Co. completed a good shale well in Tow Creek.

The deep test to the granite being drilled on Wyoming Associated acreage in Salt Creek, Wyoming, encountered a heavy flow of oil in the third Sundance and some difficulty has been encountered in controlling the production so that drilling may continue. The group development test on the Wyoming structure in Lincoln County, Wyoming, in which a number of major companies are interested, has commenced spudding.

NEW MEXICO

The most active area in Lea County, New Mexico, continues to be in the Lea Field, in Township 21, Range 33, where there now are 10 operations under way. A new location announced this week for this area is Cranfill & Reynolds' No. 1-D State, 2,310 feet from the west line and 2,285 feet from the north line, Section 3-21-33. This puts it in the SE cor., Lot 6, about 1½ miles west of the same firm's No. 1-B State, and 1¼ miles southwest of the Texas Production Co.'s No. 1 Lynch, the two producers in the field. The Amerada Petroleum Corp.'s No. 1 State, SW cor., Lot 7, Section 1-21-33, is drilling at 3,340 feet and appears to be running about 3 feet higher than the discovery well. Cranfill & Reynolds' No. 2-B State, NW cor., Lot 9, Section 2-21-33, is drilling in brown lime at 3,415 feet with the 8¼-inch cemented at 3,410 feet. The base of the salt was at 3,360 feet and the top of the brown lime at 3,395 feet. The elevation is 3,789 feet. This firm's No. 3-B State, SW cor., Lot 9, Section 2-21-33, is drilling at 2,400 feet in salt and potash, and the Texas Production Co.'s No. 1-A State, SE cor., Lot 8, Section 2-21-33, is drilling at 2,470 feet, the top of the salt being at 1,840 feet. The Texas Production Co.'s No. 1-B State, SW cor., Lot 5, Section 1-21-33, is drilling at 1,625 feet in the red beds, and its No. 2-A State, SW cor., Lot 8, Section 2-21-33, is shut down after recementing the 10-inch at 1,780 feet. Snowden & McSweeny's No. 1 State, NW cor. SW, Section 1-21-33, is drilling at 1,575 feet in the red beds and the Continental Oil Co.'s No. 1 State, NW cor., Lot 12, Section 1-21-33, is drilling at 3,660 feet in salt. The Continental's No. 2 State, SW cor., Lot 12, Section 1-21-33, is rigging up.

In the Hobbs Field in Lea County, the Shell Petroleum Corp.'s No. 1 Terry, SE SW NE, Section 22-19-38, which marks the edge of the pool on the southern end, is being abandoned at a total depth of 4,238 feet. The elevation of this well is 3,597 feet. The salt was topped at 1,726 feet and bottomed at 2,670 feet. The top of the brown lime was at 2,939 feet and it had a hole full of sulphur water at 4,235-38 feet. The Ohio Oil Co.'s No. 1 State, NE SE SW, Section 9-19-38, on the southwestern side of the pool, after plugging back to 4,208 feet from 4,312 feet, pumped 80 bbls. of oil and 12 bbls. of water first 36 hours. The Walker Oil Corp.'s No. 2 Terry, SW cor. SE, Section 10-19-38, one location south of its producer, is shut down after spudding, and the Shell Petroleum Corp.'s No. 1 Thorpe, SW NW SE, Section 10-19-38, an offset on the north to No. 1 Terry, is drilling at 2,720 feet in anhydrite. Harrison, and others' No. 1 Tatum, NW SW SW, Section 35-18-38, is bottomed at 275 feet and moving off machine used in spudding. The Midwest Refining Co.'s No. 13 Terry, SE NE SW, Section 10-19-38, is shut down at 2,890 feet in hard lime and blue shale with the 10¾-inch pipe cemented on bottom, and standardizing. The same firm's No. 24 State, NE SE SW, Section 10-19-38, an offset on the west to Walker's No. 1 Terry, is bottomed at 3,840 feet and fishing for tools. The top of the salt was at 1,720 feet, the base at 2,685 feet and the 10-inch is at 2,668 feet. This company's No. 6 Wright, NW cor. SW, Section 14-19-38, is drilling at 785 feet in red beds and shale. The Humble Oil & Refining Co.'s No. 1 Bowers, C NE SE, Section 30-18-38, 3 miles to the northwest of the producers, is bottomed at 3,747 feet in anhydrite and mudding hole. It has some drill pipe in the hole. The pressure is 900 pounds.

In the Jal District

In the Jal district in the southeastern corner of Lea County, the Humble Oil & Refining Co.'s No. 2-A Lindley, C SW SW, Section 13-25-36, is bottomed at 3,346 feet and tested 20,000,000 feet of wet gas. It also made 4½ bbls. of gasoline in 12 hours. Preparations are being made to drill deeper. This well is in the vicinity of two producers, the Continental Oil Co.'s No. 1 Wells, which is shut in, and the Humble's No. 1 Lindley, which made 680 bbls. initial. The Continental Oil Co.'s No. 2 Sholes, SW cor. NW, Section 13-25-36, has rig up, and the Humble's No. 3-A Lindley, NW cor. SW, Section 13-25-36, is a location. The Magnolia Petroleum Co.'s No. 1-X Lindley, SE cor. NE, Section 26-25-36, commenced spudding on December 2 and is drilling at 92 feet in the red beds, and the Empire Gas & Fuel Co.'s No. 1 Lindley, C NE SE, Section 14-25-36, is bottomed at 2,943 feet and waiting for cement to set. The 9-inch was cemented at 2,913 feet. The base of the salt was at 2,818 feet and top of the brown lime at 2,907 feet. The elevation is 3,103 feet.

In the area in Lea County east of the Lea Field, north of the Jal Field and south of the Hobbs Pool, the Texas Pacific Coal & Oil Co.'s No. 3 State, NW SW NW, Section 21-23-36, is a location one-fourth of a mile north of its No. 2 State. The footage is 330 feet from the west line and 1,650 feet from the north line. Its No. 2 State, NW cor. SW, Section 21-23-36, is listed as a completion. The average production by gas lift is 210 bbls. daily from the pay at 3,705-12 feet. The oil tests 28.9 gravity at a temperature of 60°. The elevation is 3,429 feet, the base of the salt at 3,233 feet and the top of the brown lime at 3,255 feet. The well also is making 4,000,000 feet of gas. The Continental Oil Co.'s No. 1 A. E. Meyers, NE SW SW, Section 17-21-36, is shut down at 3,705 feet and is estimated good for 77,000,000 feet of gas. The top of the salt was at 1,370 feet and the top of the brown lime at 2,995 feet. It had 10,000,000 feet of gas at 3,240 feet, which increased to 31,000,000 feet at 3,278 feet, and again increased at 3,685-3,705 feet. The elevation is 3,647 feet. The same company's No. 1 William Meyers, SW cor. NW, Section 28-2-36, is coring at 3,946 feet. It had 35,000,000 feet of gas at 3,257 feet and 20,000,000 feet at 3,350-60 feet. Cranfill & Reynolds' No. 1-C State, SW SE SW, Section 16-23-36, is building road to location. The Empire Gas & Fuel Co.'s No. 1 Closson, NE NW SE, Section 6-22-36, is drilling at 3,673 feet in hard lime after shutting off a big flow of gas. It had a slight show of oil at 3,613-16 feet. The Penn Oil Co.'s No. 1 State, NE, Section 21-19-36, is drilling at 3,460 feet in lime and anhydrite, and the Empire Gas & Fuel Co.'s No. 3-B State, NE SE, Section 5-21-35, is drilling at 4,173 feet in lime below the sulphur water at 3,935 feet.

Scattered Wildcats

Scattered wildcats in Lea County include the following: Maljamar Oil & Gas Co.'s No. 2 Simmons, Section 29-17-38, is a location. Barnsdall Oil Corp.'s No. 1 Bronson, SE cor., Section 28-16-38, near Lovington, is drilling at 1,667 feet in the red beds, and A. D. Morton's No. 1 State, C NW, Section 29-11-38, near Tatum, is drilling at 2,135 feet in red sand. Fisher & Lowrie's No. 1 State, NE cor. NW, Section 11-18-36, northwest of the Hobbs Pool, is bottomed at 2,101 feet in salt and standardizing. The top of the salt was at 2,065 feet and the 10-inch was set at 2,095 feet. The elevation is 3,804 feet. The Rector Oil Co.'s No. 1 King, NE NE, Section 26-25-32, in the southwestern part of the county, is drilling at 3,670 feet in anhydrite.

In Eddy County

In Eddy County, several of the wells to the northeast of the Artesia Pool are at interesting stages. Lockhart and others' No. 1 Parke, SE cor., Section 10-17-30, located 1½ miles to the northwest of No. 1 Jackson, the discovery well in this area, began showing oil at 3,310 feet and at 3,465 feet had 1,800 feet in the hole. Etz Brothers' No. 1 Etz, C SE SE, Section 13-16-30, is drilling at 3,285 feet in lime with 200 feet of oil in the hole from 3,212 feet. V. P. Welch and others' No. 1 State, SW cor., Section 27-17-28, is drililng at 1,480 feet in gray lime and had an oil show at 780 feet. Henderson, Dexter & Blair's No. 1 Arnold, NE SE SE, Section 23-17-30, is a location. It is 1½ miles southwest of the discovery. Naylor and others' No. 2 Danciger, NW cor. SW, Section 18-17-31, is drilling at 3,270 feet in lime, and Leonard & Levers' No. 1 Levers, NW cor. SE, Section 21-17-29, is drilling at 2,626 feet in white lime and had an oil show at 2,625 feet and a gas show at 2,603 feet. R. D. Compton's No. 1 Vandergriff, NW cor. NE, Section 33-19-30, Twin Hills area, was abandoned at 342 feet, at which depth it topped the salt. The elevation is 3,259 feet. F. B. Van Horn's No. 1 Santa Fe, SE SE,

(Continued on Page 111)

MERLAND TEST, TURNER VALLEY, EXTENDS THE PRODUCTIVE AREA

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Dec. 14.—With production figures for November complete, indications are that the Turner Valley production for the year 1929 will fall only a little short of the 1,000,000-bbl. figure anticipated. The field in November delivered 99,369 bbls. of light crude oil and crude naphtha, a small decrease from October, when deliveries reached the record figure of 102,466 bbls. Total deliveries for the Turner Valley for the 11 months of 1929 amount to 868,914 bbls.

The decline in November was due to the absence of any noteworthy new production, and to the temporary freezing off of a number of deep lime producers, including the famous Royalite's No. 4. The field for the month showed a total of around 35 producing wells, a few taking production while drilling or deepening. Eighteen wells delivered crude naphtha to Imperial Oil, Ltd., and 14 delivered light crude, while seven or eight wells made deliveries to Regal Oil & Refineries, Ltd. A number of these, including the Home wells, yield both light crude and crude naphtha from different sands. Deliveries to Imperial Oil, Ltd., aggregated 72,088 bbls. of crude naphtha, compared with 72,163 bbls. in October; and 10,817 bbls. of light crude, compared with 14,352 bbls. last month; making a total of 82,905 bbls., all told, compared with 87,520 bbls. in October. On the other hand, deliveries to the Regal refinery showed a small increase, being 16,464 bbls. in November compared with 14,946 bbls. in October. The total deliveries for November represented an average daily production for the field of 3,312 bbls.

The figures show 11 wells out of 35 making an average of 100 bbls. a day or better. The largest producer for November was Home Oil Co.'s No. 3, which made 18,501 bbls., an average of 617 bbls. a day; Home's No. 1 coming second with 12,301 bbls., and the Northwest-Associated's No. 1 coming third with 8,857. Home's No. 2 came fourth with 8,374 bbls. These four producers are closely grouped in the south end of the field. Home's Nos. 1 and 3 showed declines, while No. 2 and Associated's No. 1 increased their production, the former by nearly 3,500 bbls.

In the central field Okalta's No. 1 was one of the largest producers with 6,122 bbls., or over 200 bbls. a day. Royalite's No. 4 seems to have pinched out, its November production being only 825 bbls., where at one time its daily peak was reputed to have come close to that figure. In October it showed no production. Royalite's No. 17, with 6,754 bbls., was the biggest producer in the central field. Other wells running over 100 bbls. a day were Royalite's No. 6, with 3,233 bbls.; No. 8 with 3,168; No. 18 with 3,671; all crude naphtha producers. In the same area the McLeod group made 5,179 bbls. for the month, chiefly from the lower

(Continued on Page 133)

Tideland Development in California

Likely to Become Important Factor. Elwood to Be Followed by Summerland Revival, Goleta, Carpenteria and Capitan

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Dec. 14.—Tideland development has become an important factor in California during the past year and should become of still greater importance at a later date. The first work of this character was undertaken in the Summerland Field of Santa Barbara County subsequent to the discovery of oil back in 1894. The discovery well at Summerland was located north of the railroad tracks which parallel the coast line, but subsequent drilling carried the limits of production south of the railroad and finally out into the ocean itself. It is interesting to note that additional tideland development has recently been started in this field after a dormancy of many years. The present work is due to the discovery of a second sand by the Lincoln Drilling Co. early this year, and, while the Lincoln's discovery was located inside the shore line, subsequent development work has been extended out into the open ocean. George F. Getty has already started several wells and is expected to begin several more at a later date on tideland drilling permits. The most successful tideland development in California is at Elwood, where six producing wells have been finished out in the open ocean on tideland drilling permits during the past year. This tideland development in the prolific Elwood Field is a major undertaking and the piers, in contrast with early similar work at Summerland, are sturdily constructed and should be able to withstand the pounding of a heavy surf. Considerable preliminary work is necessary at Elwood before drilling operations can be instituted and in several instances the construction of piers has cost well in excess of $100,000 before derrick construction is started. The Barnsdall and Rio Grande spent approximately $500,000 in the construction of a road along the ocean front and for the erection of piers before they had secured a single barrel of oil out in the open ocean. The subsequent completion of several large wells beneath the ocean floor amply justified this expenditure, and these wells should liquidate the preliminary expenditure within a short time. It was known, of course, that this work would ultimately be successful as a large part of the Elwood structure lies buried beneath the ocean and it was just a case of going after it. The Bankline, Honolulu Consolidated and Pacific Western have also finished substantial producers out beyond the shore line on tideland drilling permits.

Goleta and Carpenteria

Extensive tideland development has also recently got under way at Goleta, Carpenteria and Capitan in Santa Barbara County and this work may become of considerable importance early next year. In the Goleta area, approximately 6 miles east of the Elwood Field, the General Petroleum is building five piers on tideland drilling permits, Nos. 133, 136, 137, 138 and 139, and one well will be started on each permit shortly after 1930 rolls around. This tideland development has resulted from the completion of a large gas well by the General Petroleum on the More Ranch a few months ago, and, while commercial production is not definitely assured, the outlook is favorable. In addition to the five wells which the company is starting out in the open ocean beyond the tideline, the General Petroleum is drilling a second well on the More property.

TANKER SHIPMENTS FROM LOS ANGELES TO ANLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	997,250	2,988,419
Fuel oil	.....	.....	.....	.....	468,825	143,471
Diesel and gas oil	98,338	14,048	170,605	24,372	2,902,462	1,824,367
Gasoline	477,198	68,171	501,827	71,690	20,308,688	13,918,525
Kerosene	.....	.....	.....	.....	49,750	.....
Naphtha distillate	.....	.....	.....	.....	81,750	339,100
Coastwise—						
Crude oil	1,381	197	187,000	26,714	24,468,597	23,556,245
Fuel oil	340,648	48,664	356,131	50,876	18,859,950	16,450,014
Diesel and gas oil	12,850	1,836	.....	.....	1,195,534	1,110,181
Gasoline	249,560	35,651	401,130	57,304	10,827,049	9,447,340
Kerosene	.....	.....	295	42	70,581	66,757
Naphtha distillate	.....	.....	.....	.....	.....	239,071
Exports—						
Crude oil	128,810	18,401	64,568	9,224	5,844,009	1,958,932
Fuel oil	540,709	77,244	331,990	47,427	18,273,261	21,195,360
Diesel and gas oil	151,086	21,584	87,198	12,457	2,752,717	2,197,039
Gasoline	399,146	57,021	88,418	12,631	11,653,153	7,290,091
Kerosene	4,950	707	46,917	6,702	3,035,126	3,885,173

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS

Diesel and gas oil	.....	.....	.....	.....	.....	418,188
Gasoline	.....	.....	.....	.....	2,275,638	2,155,414
Lubricants	.....	.....	.....	.....	138,706	277,151
Coastwise—						
Fuel oil	.....	.....	166,010	23,716	2,996,387	3,350,275
Diesel and gas oil	.....	.....	5,466	781	366,004	279,197
Gasoline	85,740	12,249	102,180	14,597	4,993,314	4,671,166
Kerosene	.....	.....	5,888	841	205,284	228,923
Exports—						
Crude oil	4,925	704	.....	.....	126,528	96,250
Fuel oil	.....	.....	.....	.....	841,631	2,222,314
Diesel and gas oil	.....	.....	.....	.....	393,132	56,180
Gasoline	65,511	9,359	98,050	14,007	5,328,819	4,163,683
Kerosene	.....	.....	.....	.....	624,180	718,523
Lubricants	.....	.....	.....	.....	29,795	33,525

Tideland development has also become an important factor in the recently discovered Capitan Field, approximately 5 miles west of the Elwood Field in Santa Barbara County. The discovery well at Capitan was the General Petroleum Co.'s No. 1 Erburu, which came in a few months ago doing 150 bbls. per day from 1,446 feet. Two more wells have been started on the Erburu property by the General Petroleum and the Shell is rigging up its first well in this area on the Covarrubias property, west of the discovery. The Oakburn Oil Co. is getting ready to spud in its initial test on tideland drilling permit No. 170 in this area and is extending the pier in order to permit the drilling of a second project.

The Continental Oil Co. has started development work on nine tideland drilling permits at Carpenteria where the company has been engaged in wildcat exploration for more than a year, two of which are already making hole. The first test drilled by the Continental on the Bailard lease in this area was a large gas well which the company was unable to flow because of the extreme gas pressure encountered. This well was accordingly suspended at 4,130 feet after being mudded off with hematite, and a second test spudded in a few hundred feet east and a little north. The second test proved a dud with the result that operations have been transferred west and south of the original gasser. This area, like the More section near Goleta, is still wildcat territory notwithstanding the large gas well finished in each district. It is evident, however, that Carpenteria justifies additional development and it would not be surprising if the Continental's tideland development bore fruit and resulted in the discovery of a new field at this point.

Santa Fe Springs

Umpire Grimm had several more large completions to contend with in Santa Fe Springs at the close of the past week and five or six more are expected in sometime during the next few days. The Superior Oil Co. and H. A. Bardeen ran neck and neck for completion honors this week as each chalked up a big well. The former's No. 5 Wardman, which came in doing 8,550 bbls. per day from 7,933 feet, headed the list, so far as initial production is concerned. Bardeen's No. 3 Springs, a new well, was next in line with an initial flow of 8,500 bbls. daily from 8,064 feet. No. 5 Wardman was a former upper zone producer and makes the Union Oil Co.'s No. 38 Bell look like a million dollars from a production standpoint. The latter has just finished at 8,000 feet and should be tanking oil sometime within a few days. The Union's No. 44 Bell, a new well finished this week, failed to show substantial production due probably to being held back. It was listed for completion doing 2,000 bbls. daily from 7,928 feet.

General Petroleum, the largest single operator at Santa Fe Springs from both a production and development standpoint, put four wells on production and increased its daily production 8,415 bbls. The company's best well was No. 187-C Hill, a new well, which came in flowing 4,140 bbls. per day from the lower Clarke at 8,025 feet. No. 136 Santa Fe, another new well, showed an initial of 1,230 bbls. from 6,900 feet. No. 189-D Santa Fe and No. 169-D Santa Fe came in doing 1,280 bbls. and 1,765 bbls., respectively. The former, a new well, was bottomed at 8,150 feet, while the latter, a former upper zone producer, was redrilled and deepened to 7,951 feet. The Third Twin Bell Syndicate finished a new producer when No. 1 Lamb was returned to production, flowing 2,855 bbls. daily after being deepened to 8,072 feet.

The Commodore Petroleum topped off the week by finishing No. 3 Babonett, a former shallow zone producer, doing 2,260 bbls. initially from the lower Clarke at 7,975 feet. The Shell also increased its list of producers when No. 14 Slusher, a new well, was brought in flowing 1,160 bbls. per day from 7,900 feet. This well made a preliminary flow a few weeks ago but was subsequently killed to run tubing. The Standard Oil Co. was satisfied with No. 20 Walker, a new well doing 845 bbls. per day from 7,918 feet, but should have several more potential producers tanking oil in the near future. The Texas Company also has several projects nearing completion on the Mattern, Standlee, Weaver and Wickman leases. George F. Getty's No. 29 Springs, which came in doing 7,870 bbls. per day from 8,000 feet in November, is still making 4,100 bbls. of clean oil and 40,000,000 feet of natural gas daily despite attempts to bean it down below 3,000 bbls.

Rosecrans

The Union Oil Co. chalked up a nice completion in the Rosecrans Field of Los

FIVE COMPLETIONS IN MT. PLEASANT AND THREE PRODUCERS IN MUSKEGON

By Special Correspondent

MUSKEGON, Mich., Dec. 16.—Three oil wells and one dry hole were added to the record of the Muskegon Field during the week. L. E. Kennedy and others' No. 5 Charles I. Giles, NE SE, Section 6-10-16, Muskegon Township, flowed 287½ bbls. the first 24 hours. Dundee sands were encountered at 2,044-49 feet and the well had an estimated daily flow of 500,000 feet of gas. The Central Gas & Oil Co.'s No. 3 Joldersma, NE SW, Section 8-10-16, Muskegon Township, on the Muskegon River flats, made 90 bbls. during the first 24 hours but was rated better than 100 bbls. a day on the pump. It also had a flow of about 500,000 feet a day. Pay was struck at about 2,000 feet, total depth 2,005 feet.

The Continental Gas & Oil Co. completed its nineteenth well, the second one on the city of Muskegon lease on Jackson Avenue east of the city limits. It is estimated good for about 25 bbls. on the pump in the upper Traverse at 1,723-27 feet and the bottom of the hole is at 1,745 feet. The well is in SE NW, Section 22-10-16, Muskegon Township, near other Continental wells, 2 miles southeast of the main body of the Muskegon Field.

The Wolverine Mineral Development Co.'s No. 1 August Hein was abandoned at 2,029 feet. Gas, oil and water were struck together in the Dundee but not enough oil to pay.

C. B. Jetter, of the Blue Arrow Petroleum Co., has shut in the 1,000,000-foot gas well brought in last week for Bradley & Bradley, No. 1 T. Kooi, SW NE, Section 8-10-16, Muskegon Township.

There were three new locations this week: Reed company's No. 2 Plunkett; Witt & Wyant's No. 8 A. H. Fenner, SW SE, Section 11-10-17, Laketon Township, and the Muskegon Oil Corp. and Grayling Development Co.'s No. 2 Davis, NW NW, Section 16-26n-5w, Clearwater Township, Kalkaska County.

Mount Pleasant Field

That the McKay-Mercier gas well in Claire County may be more than an isolated pocket and may lead to the development of a gas field in the Marshall formation is given credence by the large and unchecked flow of gas from the Sias Oil Development Co.'s No. 1 Frank Muma, SW NW, Section 2-14n-3w, Chippewa Township, Isabella County.

Gas was struck a week ago in the Sias-Muma well at 1,145 feet in the Marshall formation. The initial flow was estimated at 1,500,000 feet. The well was deepened about 1,160 feet and the gas flow doubled to about 3,000,000 feet. A flow of salt water struck with the gas makes it impossible to produce it at this depth.

The Sias-Muma well is north of the

(Continued on Page 111)

To Customers, Fellow Manufacturers and Other Friends

At this season of rejoicing and festivity, we are only too happy to pause for a moment in our appointed task of designing, manufacturing and selling the world's greatest line of control specialties, to wish our legion of customers, fellow manufacturers and our host of friends

A Most Merry Christmas and Prosperous New Year

FISHER

THE FISHER GOVERNOR COMPANY, Inc.
MARSHALLTOWN, IOWA

Angeles Basin when No. 11 Rosecrans was recompleted doing 1,240 bbls. of clean 33.4 gravity oil after being redrilled and deepened to 5,960 feet. The only other well under way in this field at present is the Barnsdall's No. 1 Trust, in a hard sand at 5,225 feet. This project is on a 158-acre tract situated west of the Barnsdall's productive O'Dea lease. The Trust property was originally held by the Union Oil Co. but subsequently quitclaimed following the drilling of a duster several years ago. Although very few wells have been finished in the Rosecrans Field during the past few years due to decreased development work, field production has remained relatively stable. This field has a total of 99 producing wells, 11 of which are producing under a natural flow, 37 on compressors and 51 pumpers.

The Continental Oil Co. has listed No. 30 Bixby, a new well in the Seal Beach Field of Los Angeles basin, for completion doing 888 bbls. of unusually clean 26.7 gravity oil daily from the Wasem zone at 5,547 feet. Two new wells are being started in this district, one by the Continental and another by the Standard. In the Rickfield district, the Arrowhead Oil Co. has finished No. 1 Zuckerman, a new well pumping 137 bbls. of clean 19.1 gravity oil daily from 4,504 feet. This well proved somewhat of a disappointment as the company has anticipated securing a 24.0 gravity crude. Four wells are scheduled for completion in this field within 30 days, and, while they should register commercial production, the output will be relatively small in comparison with flush production developed in other areas. The average initial daily production will probably run somewhere around 400 bbls. The wells scheduled for completion are No. 1 Ross of the Continental, No. 1 Griffith of the Superior Oil Co., No. 9 Morse of the Union, and Howard, Rathaway & Burroughs' No. 1 Richfield.

Midway-Sunset

The North American Consolidated finished another good well in the Midway-Sunset Field of Kern County when No. 5 Kerckhoff, located out in the Maricopa flats, came in under a natural flow doing 2,185 bbls. of clean 22.9 gravity oil daily from 3,376 feet, the water string having been landed at 3,318 feet. This company is working on six other potential producers and should list additional completions from time to time. The Barnsdall matched this completion by bringing in No. 1-A Hazelton doing 2,000 bbls. daily from 3,428 feet. This new producer sanded up subsequent to completion but should be back on production again within a few days. No. 2 Maricopa of the Birch Oil Co., No. 1 Son of the Doyle Petroleum and No. 2 Havenstrite of the Rio Grande should also be tanking oil soon. The Union Oil Co. picked up the pay in No. 1 Son, in Section 8-11-23, at 3,715 feet and this well should also be listed for completion shortly. The Union's last completion in the Midway-Sunset Field was No. 1 Williams, which came in two weeks ago pumping 250 bbls. a day from 2,888 feet. This producer, which has just been taken off production, is about 2,000 feet northwest of the company's No. 1 Western Petroleum, which precipitated the drilling of several wells in the Maricopa section of the field a year or so ago.

The Chanslor-Canfield Midway Oil Co. increased its list of producers out in the West Front section of the Kern River Field when No. 29, in Section 23-28-27, was brought in pumping 190 bbls. of 14.6 gravity oil daily from 2,233 feet. The crew from this new well was subsequently transferred for duty on No. 30, in the same section, which has spudded in. The Richfield Oil Co. also finished a new well out on the Kern front but this project, No. 11, in Section 22-28-27, was shut in without making a production test and its potential is unknown. A similar procedure will probably be followed by No. 9 on the same property next week. The General Petroleum picked up the pay in No. 14 Whetmore at 1,395 feet and this new well should be listed for early completion. The standard Oil Co. successfully recompleted well No. 2 on Kern County Land Co. lease No. 5 in the Fruitvale Field of Kern County pumping 150 bbls. daily from 4,777 feet and the crew from this well was immediately transferred to No. 3 on the same lease.

Unless something unforeseen develops, another well will be put on production in the Kettleman Hills Field of Kings County very shortly. The potential producer is the General Petroleum's No. 2 Oschner, in Section 26-22-18. This well, which has been bottomed at 7,321 feet, is being prepared for production with the outlook exceptionally promising. Preliminary preparations started several weeks ago to resume production in the Lost Hills Field after a suspension of several years in order to facilitate the transportation of production anticipated at Kettleman Hills. It is the present intention to commingle the oil from Kettleman Hills with that of Lost Hills to facilitate pipe line transportation as the volatile Kettleman crude would be rather difficult to move through existing facilities. The General Petroleum already has a pipe line from Kettleman Hills to Lost Hills and thence southward to Los Angeles, and, if No. 2 Oschner comes up to expectations, the General Petroleum will be refining Kettleman Hills oil at its Vernon or Torrance refineries in Southern California early next year. This well will be permitted to produce indefinitely in conformity with the Kettleman Hills agreement as it was one of the few exceptions to the general shutdown.

The Bolsa Chica Oil Co. will probably be the next concern to suspend development work in the Kettleman Hills Field in compliance with the curtailment agreement affecting this district. It is likely the Secretary of the Interior will validate this permit soon and permit a suspension as the well log indicates a sufficient amount of formation to justify the expectation of developing production. This project, No. 1 Ferguson, in Section 24-22-17, is down 7,450 feet. The Petroleum Securities has started the construction of an absorption plant on the Felix property in Section 35-21-17 preliminary to the completion of No. 1 Felix early next year. This well, standing suspended in the oil sand at 7,276 feet, should be finished within 60 or 90 days. It is on fee-owned acreage and is not amenable to the Kettleman Hills agreement which contemplates the regulation of production and development. None of the other projects located on fee-owned acreage at Kettleman Hills are deep enough to pick up the pay, but something along this line may develop early in 1930. George F. Getty's No. 1 Erwin, in Section 20-23-19, the deepest of this group of wells located on fee property, was at 5,750 feet a few days ago. No. 1 Whepley of the Associated, in Section 35-21-17, is next in line at 4,175 feet, followed by the Superior Oil Co.'s No. 1 Hoffman, in Section 29-21-17. These wells are of course exclusive of those which the Standard is drilling on fee-owned property acquired in the Pacific Oil merger a few years ago. This company is preparing to run drill pipe to resume drilling operations in No. 81, in Section 11-22-17, which has been held up for several months because of mechanical trouble. This well produced for a few months at 6,673 feet before the company decided to carry it down to the Milham sand to stimulate production.

Long Beach

Umpire Neal Anderson has had the exceptionally good fortune to succeed in reducing Long Beach production to within striking distance of the allowable maximum of 100,000 bbls. per day and keeping it there. He has not had to contend with large weekly completion lists, and, while this has lessened his troubles, his achievement has been due in large measure to the fact that he enjoys the confidence of operators. During the past week there were three wells finished in this field and a check indicates the probable completion of several more soon. The Petroleum Securities headed the list with a 1,200-bbl. producer resulting from the completion of No. 1 Davis, a new well in the southeast end at 6,817 feet. This company has several other potential producers nearing completion on the Young, Davis and Wallow leases. The Vesta Oil Co. also chalked up a satisfactory completion when No. 2 Signal was brought in doing 805 bbls. per day from

(Continued on Page 111)

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well, location—	S.T.R.	Depth	Status
Union, No. 1 Buel Canyon, Santa Barbara Co.	X- 7-31	2,500	br. sh. drilling
Standard, No. 1 Point Conception, Santa Barbara Co.	X- 5-34	3,040	hd. sd. drilling
Standard, No. 1 Point Arguello, Santa Barbara Co.	35- 6-36	2,310	fishing
Gaviota Oil Co., No. 1 Lompoc, Santa Barbara Co.	9- 7-35	2,677	suspended
Calif. Oil Prop., No. 1 San Marcos, Santa Barbara Co.	3- 4-28	3,745	Sespe-drilling
Carey, A., No. 1 Goleta, Santa Barbara Co.	1- 4-28	1,925	hd. sd. drilling
General Pet., No. 1 Goleta, Santa Barbara Co.	21- 4-28	4,533	gas well—idle
General Pet., No. 2 Goleta, Santa Barbara Co.	21- 4-28	2,891	redrilling
General Pet., No. 1 Goleta Tideland, Santa Barbara Co.	21- 4-28	Mtl.	building pier
General Pet., No. 2 Goleta Tideland, Santa Barbara Co.	21- 4-28	Mtl.	building pier
General Pet., No. 3 Goleta Tideland, Santa Barbara Co.	21- 4-28	Mtl.	building pier
General Pet., No. 4 Goleta Tideland, Santa Barbara Co.	21- 4-28	Mtl.	building pier
General Pet., No. 5 Goleta Tideland, Santa Barbara Co.	21- 4-28	Mtl.	building pier
Standard, No. 2 Goleta, Santa Barbara Co.	X- 4-29	1,520	sd. sh. drilling
Tannehill, L. B., No. 1 Goleta, Santa Barbara Co.	24- 4-29	4,520	sd. sh. drilling
Standard, No. 1 County Farm, Santa Barbara Co.	11- 4-28	1,816	sd. sh. drilling
General Pet., No. 2 Capitan, Santa Barbara Co.	4- 4-30	Mtl.	building rig
Oakburn Oil Co., No. 1 Capitan, Santa Barbara Co.	4- 4-30	Rig	rigging up
Oakburn Oil Co., No. 2 Capitan, Santa Barbara Co.	4- 4-30	Mtl.	building pier
Shell Oil Co., No. 1 Capitan, Santa Barbara Co.	4- 4-30	Mtl.	building rig
Fields Gasoline Co., No. 1 Orcutt, Santa Barbara Co.	36-10-34	5,005	set pipe
Keystone Oil Co., No. 1 Santa Maria, Santa Barbara Co.	33-10-34	4,250	cleaning out
Wildcat Oil Co., No. 1 Santa Maria, Santa Barbara Co.	20-10-35	3,970	br. sh. drilling
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14- 5-27	1,910	sd. sh. drilling
Gilmore Oil Co., No. 1 Gibraltar, Santa Barbara Co.	1- 5-28	Rig	suspended
Shell, No. 1 Summerland, Santa Barbara Co.	18- 4-25	1,170	hd. sd. drilling
Standard, No. 1 Casitas, Santa Barbara Co.	26- 4-25	Mtl.	building rig
Casper, R. W., No. 1 Carpenteria, Santa Barbara Co.	32- 4-25	Mtl.	building rig
Continental, No. 1 Carpenteria, Santa Barbara Co.	33- 4-25	4,130	gas well—idle
Continental, Carpenteria permit No. 121, Santa Barbara Co.	33- 4-25	Mtl.	port. equip.
Continental, Carpenteria permit No. 123, Santa Barbara Co.	33- 4-25	25	sd. drilling
Continental, Carpenteria permit No. 124, Santa Barbara Co.	33- 4-25	Mtl.	port. equip.
Continental, Carpenteria permit No. 125, Santa Barbara Co.	33- 4-25	Mtl.	drive piles
Continental, Carpenteria permit No. 126, Santa Barbara Co.	33- 4-25	Mtl.	drive piles
Continental, Carpenteria permit No. 127, Santa Barbara Co.	33- 4-25	Mtl.	drive piles
Continental, Carpenteria permit No. 128, Santa Barbara Co.	33- 4-25	Mtl.	drive piles
Continental, Carpenteria permit No. 129, Santa Barbara Co.	33- 4-25	Mtl.	drive piles
Continental, Carpenteria permit No. 131, Santa Barbara Co.	33- 4-25	Mtl.	drive piles
McDonald, Geo. A., No. 1 Carpenteria, Santa Barbara Co.	32- 4-25	25	sd. drilling
Standard, No. 5-9 Saticoy, Ventura Co.	10- 2-22	8,410	br. sh. drilling
Bolsa Chica, No. 1-A Temescal, Ventura Co.	4- 4-18	1,350	br. sh. drilling
Associated, No. 1 Rincon, Ventura Co.	19- 4-24	210	sd. drilling
Miley, E. J., No. 2 Casitas, Ventura Co.	7- 3-23	1,870	suspended
Frank Oil Co., No. 1 Fillmore, Ventura Co.	35- 4-20	2,168	cleaning out
Continental, No. 3 Sulphur Mountain, Ventura Co.	21- 4-22	5,730	fishing
Lockwood Oil Co., Well No. 1, Ventura Co.	28- 8-21	682	suspended
Milham Expltn., No. 9 Buttonwillow, Kern Co.	8-28-23	4,872	deep test
Elmer Oil Co., No. 1 Bena, Kern Co.	15-30-30	3,800	cleaning out
Elmer Oil Co., No. 1-A Rosedale, Kern Co.	33-29-26	5,260	cleaning out
General Pet., No. 1 Rosedale, Kern Co.	23-29-26	4,970	hd. sd. drilling
The Texas Company, No. 1 Edison, Kern Co	23-29-29	4,000	br. sh. drilling
Symark Oil Co., No. 1 Edison, Kern Co.	24-29-29	2,130	suspended
McVey, Max, No. 1 Jasmine, Kern Co.	23-25-27	Rig	idle
Shell Oil Co., No. 1 Lerdo, Kern Co.	5-29-27	6,190	abandoning
Union, No. 2 San Emidio, Kern Co.	5-10-21	3,690	redrilling
Mallery-Willard, No. 1 San Emidio, Kern Co.	9-10-23	711	hd. sd. drilling
Currency Pet. Co., No. 1 Jacalitos, Fresno Co.	28-21-14	2,810	hd. sd drilling
Knudsen, John, No. 1 Jacalitos, Fresno Co.	14-21-14	1,180	bl. sd drilling
Rio Grande Oil Co., No. 1 Kerman, Fresno Co.	14-13-17	4,158	sd. sh. drilling
Petroleum Securities, No. 2 Huron, Fresno Co.	28-20-16	6,900	sd. sh. drilling
Western Gulf, No. 1 Penoche Valley, Fresno Co.	26-15-12	Mtl.	building rig
Union, No. 1 Huasna, San Luis Obispo Co.	34-32-15	4,158	suspended
Union, No. 1 North Huasna, San Luis Obispo Co.	12-32-14	4,980	gr. sh. drilling
Midwest Refining Co., No. 1 Huasna, San Luis Obispo Co.	34-31-15	2,212	redrilling
Panorama Oil Co., Well No. 1, San Luis Obispo Co.	7-31-21	4,019	cleaning out
Paso Robles Synd., No. 1 Creston, San Luis Obispo Co.	27-27-11	3,742	suspended
Latin-American, No. 1 Shandon, San Luis Obispo Co.	31-27-15	4,005	gr. sh. drilling
Shell, No. 1 Dudley, Monterey Co.	15-22- 9	5,475	sd. sh. drilling
Chessher, H. B., No. 1 Dudley, Monterey Co.	8-22 -9	245	suspended
Union, No. 1 King City, Monterey Co.	8-22- 8	2,520	br. sh. drilling
Standard, No. 1 King City, Monterey Co.	23-22- 7	3,050	br. sh. drilling
Pacific Inland Oil Co., No. 1 Parkfield, Monterey Co.	19-23-15	Rig	rigging up
Penn Western, No. 1 Tulare Lake, Kings Co.	24-21-18	1,338	suspended
Dudley Ridge Synd., No. 1 Tulare, Kings Co.	12-23-19	1,305	gasser, shut in
O'Donnell, J. E., No. 1 Dudley Ridge, Kings Co.	7-23-20	1,882	cemented
Porter, H. B., No. 1 Devils Den, Kings Co.	9-24-17	2,420	br. sh. drilling
Getty, George F., No. 1 Dutton, Madera Co.	18-13-16	3,861	sd. sh. drilling
Twin State Oil Co., No. 1 Soldani, Mendocino Co.	14-12- 7	1,680	sd. sh. drilling
Barnhart Trust, No. 1 Oakdale, San Joaquin Co.	3- 2-10	2,550	sd. sh. drilling
Inland Oil Co., No. 1 Visalia, Tulare Co.	24-17-24	2,025	hd. sd. drilling
White, Roy, No. 1 Pixley, Tulare Co.	8-23-26	2,377	suspended
Terminal Oil Co., No. 1 Tulare, Tulare Co.	29-20-25	4,198	suspended
Terra Bella Oil Co., No. 1 Porterville, Tulare Co.	35-22-27	300	sd. drilling

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Simmel, L. G., No. 1 Inglewood, Los Angeles Co.	21- 2-14	Mtl.	building rig
Ohio Oil Co., No. 1 Del Rey, Los Angeles Co.	21- 2-15	6,199	recemented
Marblehead Land Co., No. 1 Santa Monica, Los Angeles Co.	1- 2-19	2,416	sd. sh. drilling
Clearwater Oil Co., No. 1 Bellflower, Los Angeles Co.	21- 3-12	2,865	sd. sh. drilling
Continental, No. 1 Alamitos, Los Angeles Co.	34- 4-12	5,216	hd. sd. drilling
Burlingham Pet., No. 1 Compton, Los Angeles Co.	17- 3-13	2,204	cleaning out
Big Boy Drlg. Co., No. 1 Compton, Los Angeles Co.	22- 3-15	Mtl.	building rig
Consolidated Exp. Co., No. 1 Compton, Los Angeles Co.	21- 3-13	4,190	sd. sh. drilling
Hanners, George, No. 1 Watts, Los Angeles Co.	3- 3-13	3,655	sd. sh. drilling
Diller, W., No. 1 Watts, Los Angeles Co.	8- 3-17	677	sd. drilling
Cal. Well Drlg. Co., No. 1 Compton, Los Angeles Co.	11- 4-13	8,500	recemented
Archer Oil Co., No. 1 Watson, Los Angeles Co.	17- 4-13	4,850	hd. sd. drilling
Harbor Oil Co., No. 1 Watson, Los Angeles Co.	17- 4-13	....	material
Russell Oil Co., No. 2 Joughin, Los Angeles Co.	22- 3-17	2,418	suspended
Pomona Oil Co., Well No. 1, Los Angeles Co.	32- 1- 8	1,220	cleaning out
Anchor Oil Co., No. 1 Puente, Los Angeles Co.	19- 2-10	4,820	suspended
Rucker, R. C., No. 1 Puente, Los Angeles Co.	27- 2-10	3,075	sd. sh. drilling
The State Co., No. 1 Puente, Los Angeles Co.	5- 2-10	3,025	gr. sd. drilling
Keck & Hall, No. 1 Puente, Los Angeles Co.	32- 2- 8	691	some oil
Urmi Oil Co., No. 1 Puente, Los Angeles Co.	31- 2- 8	1,511	suspended
Los Gatos Oil Co., No. 1 El Monte, Los Angeles Co.	16- 1-11	1,525	hd. sd. drilling
Union Oil Co., No. 1 Richfield, Los Angeles Co.	13- 3- 9	2,050	br. sh. drilling
Superior Oil Co., No. 1 Richfield, Los Angeles Co.	32- 3- 9	4,162	abandoning
Coastline, No. 1 Devils Canyon, Los Angeles Co.	21- 5-17	2,150	gr. sd. drilling
Olympic Corp., No. 1 Calabasis, Los Angeles Co.	18- 1-17	Rig	rigging up
Martin, J. W., No. 1 Newhall, Los Angeles Co.	22- 1-17	875	gr. sd. drilling
Consolidated Oil Co., No. 1 Newhall, Los Angeles Co.	22- 3-16	550	hd. sd. drilling
Anderson, P. B., No. 1 Hasley Canyon, Los Angeles Co.	1- 3-16	815	sd. sh. drilling
Shell, No. 1 Bolsa, Orange Co.	18- 5-11	3,525	hd. sd. drilling
Shell, No. 1 Coyote, Orange Co.	28- 3-10	6,050	redrilling
Standard, No. 1 Coyote, Bastanchury, Orange Co.	21- 3-10	2,716	sd. sh. drilling
Union, No. 1 Coyote Sansinina, Orange Co.	30- 2-10	610	br. sh. drilling
Beard, G. F., No. 1 Brea Canyon, Orange Co.	30- 2- 9	1,199	br. sh. drilling
Western Gulf, No. 1 Brea Canyon, Orange Co.	28- 2- 9	Rig	rigging up
Mesa Pet., No. 1 Newport, Orange Co.	21- 6-10	4,400	set plug
Oil Well Eng. Co., No. 1 Newport, Orange Co.	21- 6-10	2,795	suspended
Oil Well Eng. Co., No. 2 Newport, Orange Co.	21- 6-10	Mtl.	suspended
Hall Pet. Co., No. 1-A Murrietta, Riverside Co.	23- 7- 3	701	cemented
Hemet Pet. Co., No. 1 Ward, Riverside Co.	9- 5- 1	3,403	suspended
Imperial Valley Oil Co., Well No. 1, Imperial Co.	32-11-10	2,980	suspended
Turner, S. S., No. 1 Escondido, San Diego Co.	25-12- 2	3,005	sd. sh. drilling
McGregor Synd., No. 1 Del Mar, San Diego Co.	17-14- 3	1,100	sd. sh. drilling
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	X-13- 4	1,140	sd. sh. drilling
Grey, H. H., No. 1 Redlands, San Bernardino Co.	25- 1- 2	2,500	hd. sd. drilling
Duncan, N. I., No. 1 Mojave, San Bernardino Co.	8- 4- 6	Rig	rigging up

The Season's Greetings

The Continental Supply Company

Few Good Completions in the East

Southeastern Ohio Counties Have Fair Producers. West Virginia Completions Mostly Gas Wells and Light Pumpers

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., Dec. 16.—No large and only a few good producers were completed since the eastern fields were last reviewed. In the NW of Section 3, Clay Township, Muskingum County, Ohio, William Cline & Co.'s test on the Robinson Ramsbottom farm produced 105 bbls. the first 24 hours after shot in the Clinton.

In the SW of Lot 35, Washington Township, Tuscarawas County, the Guernsey National Bank completed in the Big Lime, for the Sheets account, a second test on the Rachel Sheets farm. It produced 85 bbls. the first 24 hours.

In Section 4, Harrison Township, Perry County, Bell, Scholl & Co. completed in the same formation a test on the Roseville Coal Co.'s property. It produced 60 bbls. the first 24 hours. In Section 19, Hardy Township, Holmes County, the East Ohio Gas Co.'s No. 3 on the Christian Scharb farm produced 40 bbls. the first 24 hours. In Section 13, Hanover Township, Licking County, the Hope Construction & Refining Co. has a 48-bbl. producer at a second test on the Mary J. Fleming farm.

SOUTHEAST OHIO

In Section 12, Sutton Township, Meigs County, S. A. Palmer and others completed in the Berea grit a duster on the Chapman Hill farm. In Section 11, same township, John M. Hazelett & Co. completed No. 4 on the Belle Spencer farm. It is a 7-bbl. pumper in the Cow Run sand. In Section 9, Saulsbury Township, W. N. Shipa and others have started to drill on the Katherine Klein farm.

In Section 4, Harrison Township, Perry County, M. H. Bauman and others completed in the Clinton sand a gasser good for 400,000 feet on the James Weaver farm.

In the NW of Section 5, Jefferson Township, Noble County, J. H. Richardson and others completed a duster in the Macksburg 500-foot sand on the William Hesson farm. In Hopewell Township, Section 5, Muskingum County, the Hopewell Fuel Gas Co.'s test on the T. C. Sidle farm is a light pumper in the Clinton sand. In Fallsbury Township, Licking County, the Emerald Petroleum Co. and others have a 15-bbl. pumper at No. 7 on the E. Martin farm. In Section 14, Franklin Township, Licking County, A. W. Patton & Co. have a 4-bbl. on C. E. Cotterman farm.

In the SE of Section 23, Washington Township, Hocking County, the Gordon Oil Co. completed a fair gasser in the Clinton sand at its No. 4 on the J. A. Kitchen farm. In Section 6, Clarke Township, Coshoction County, Albert Grace and others completed in the Berea grit No. 6 on the Joseph S. Beall farm. It is a 5-bbl. pumper.

WEST VIRGINIA

In Ten Mile district, Harrison County, the Conservative Gas Co. completed a test on the I. C. Mason farm. It is a fair gasser in the Fifth sand. In Cameron district, Marshall County, the Manufacturers Light & Heat Co. has a gasser in the 50-foot sand at No. 3.387 on the H. F. Phillippi farm.

In McClellan district, Doddridge County, Trainer & Ash have a gasser in the Big Injun sand at a second test on the Irvin Bates farm. In Jefferson district, Lincoln County, the United Fuel Gas Co. has a gasser in the Berea grit at No. 4,906 on the Shady Estep farm. In Cabin Creek district, Kanawha County, the United Fuel Gas Co. has a gasser at No. 3,896 on the Sunday Creek Coal Co.'s property. In Sherman district, Boone County, the Pure Oil Co. has an 8-bbl. pumper at No. 41 on the Federal Coal Co.'s tract. Nos. 40 and 42 on the same tract are drilling.

In Union district, Ritchie County, the Central Development Oil & Gas Co. has a very light pumper in the Gantz sand on the L. S. Goff farm. In Curtiss district, Roane County, D. W. Law & Co.'s second test on the L. M. Riddle farm is a 3-bbl. pumper in the Big Injun sand. In Reedy district the Hope Construction & Refining Co. has an 8-bbl. pumper in the Berea grit at No. 1,136.

Calhoun County

In Lee district, Calhoun County, F. F. McIntosh & Co.'s test on the James Duskey farm is a gasser in the Big Injun sand. In Center district the Hope Natural Gas Co.'s No. 7,423 on the M. B. Stevens farm is a gasser in the same formation. In Sheridan district M. F. Crowley's test on the Rosa Davis heirs' farm is a gasser in the Big Injun sand.

In Center district, Gilmer County, the Carnegie Natural Gas Co. completed in the Berea grit a second test on the L. Wilmoth farm. It is dry and abandoned. In Union district, Pleasants County, L. C. White & Co.'s test on the R. H. Browse farm is good for not more than 1 bbl. a day. In Grant district, Ritchie County, the Griffin Producing Co. has a very light pumper at No. 79 on the Stewart United Oil Co.'s lease.

In Walker district, Wood County, Alleman & Horner are testing for oil in the Big Injun sand on the Thomas Reckard farm. In Duval district, Lincoln County, the United Fuel Gas Co.'s Nos. 3,810 and 3,975 on the Horst Creek Land & Mining Co.'s tract are gassers in the Berea grit. In Carroll district, B. B. Jaynes, trustee, has a gasser in the same formation on the R. D. Adkins farm.

Roane County

In Curtis district, Roane County, the Reedy Oil Co. completed in the Salt sand a second test on the T. W. Riddle farm. It is a 3-bbl. pumper. In Washington district, Jackson County, the Tom Harris Oil Co. completed in the Berea grit a test on the W. Ludwick farm. It is dry. It is on Little Creek of Mill Creek, about 2 miles north of the company's test on the W. Riddle farm.

In Curtis district, Roane County, the F. H. Parsons Oil & Gas Co. completed a test on the T. B. Bee farm. It is a 4-bbl. pumper in the Salt sand, 2,000 feet west of the Reedy Oil Co.'s test on the A. D. Pagf farm. On Jack Fork, branch of Turkey Creek, Harvey district, Mingo County the Wilson Dale Land & Coal Co. completed a test on the C. C. Messer farm. It is 5,500 feet west of the Public Gas Corp.'s No. 22 on the Henry Closterman farm.

Cabell County

In McComas district, Cabell County, the Hamilton Oil & Gas Co. is building a rig on the Janis Koene farm. In Grant district the same company has made a location on the O. and F. Nelson farm. In Chapmanville district, Logan County, the Hope Natural Gas Co. is building a rig on the Elias F. Showers farm. In Sheridan district, Lincoln County, the Hamilton Gas Co. started to drill on the Charles Hunter farm. In McComas district, Cabell County, the same company made locations on the Harry Hatfield and Richard McComas farms.

In Geary district, Roane County, the O. D. Stockly farm, a large tract, operated by the South Penn Oil Co., has for several years been furnishing producers with a good deal of regularity. The wells are not large but of a size to make it profitable to drill for them at a profit even though the market is low. On this farm the South Penn Oil Co. has just drilled into the Big Injun sand No. 103 and is estimated good for 25 bbls. after shot. The location is 600 feet north of No. 104 on the same farm.

Harrison County

In Sardis district, Harrison County, Lancaster & Hawthorne completed in the Big Dunkard sand a light pumper on the Ellis Marsh farm. In Battelle district, Monongalia County, the Manufacturers Light & Heat Co. and others have a 15-bbl. pumper on the Hall-Jackson farm. In Clay district the Pedlar Run Oil Co. has a rig up on the Lewis R. Hess farm.

In McElroy district, Tyler County, S. Underwood & Co. have a 2-bbl. pumper in the Big Injun sand on the F. M. Williams farm. In Grant district, Doddridge County, Stephen Colling has a 5-bbl. pumper on the W. W. Spencer farm. In Church district, Wetzel County, Null & Morehead's test on the Charles Snodgrass farm and the Hundred Gas Co.'s test on the McDonald heirs' farm are both gassers.

In Ellsworth district, Tyler County, the Oakland Oil Co.'s test on the Frank Lancaster farm is a duster. In Liberty district, Marshall County, the Denver Oil Co. has finally completed its test on the Mary Marks farm. It is a gasser. In Cameron district the Manufacturers Light & Heat Co. is drilling on the H. F. Philipi and Della Huffner farm. In Butler district, Hancock County, Lee Freshwater has a very light pumper at No. 7 on the W. W. Hennon farm.

In Troy district, Gilmer County, the Hope Natural Gas Co. has a gasser good for 500,000 feet in the Big Injun sand at No. 5 on the A. L. Rymer farm. In the same district, C. M. Bennett & Co. have a fair gasser on the Henry Lewis Lamb farm. In the same district, the Carnegie Natural Gas Co. has a rig completed on the John F. Young farm.

Mingo County

On Twelve Pole Creek, Harvey district, Mingo County, the Red Jacket Oil & Gas Co. completed in the Maxon sand No. 9 on the Red Jacket Oil & Land Co.'s tract. It is a gasser good for 1,750,000 feet. On the same tract, the same company has rig completed for No. 10, 1,000 feet north of No. 8.

In Clay district, Wirt County, W. E. Patterson has a duster at No. 34 on the Vernon-Donoha farm. In the same district, Hayhurst & Co. are drilling a second test on the W. A. Lewis farm. In Lafayette district, Pleasants County, O. Rice & Co. have a very light pumper on the W. H. Singleton farm.

In Union district, Pleasants County, Albert Neely and others are drilling on the Ira Brammer farm. In the same district, L. C. White & Co. are drilling on the Frank Sellers farm. In Jefferson district, G. B. White & Co. have a duster on the Frank Griffith farm. No. 2 on the same farm is drilling. In Washington district, George Pickens & Co. are drilling on the F. E. Lawrence farm.

In Geary district, Roane County, the Virginian Gasoline & Oil Co. has a 15-bbl. pumper at No. 6 on the John Hunt

(Continued on Page 120)

JOLLY POOL DRY HOLE FOLLOWING BIG WELLS NOT DISCOURAGING

By Whit
Staff Correspondent, Kentucky-Tennessee

OWENSBORO, Ky., Dec. 16.—It is evident that the finding of a dry hole means but little to the operator in the western Kentucky area, especially in Ohio County. Some few weeks ago C. M. Root and others brought in a 500-bbl. initial producer on the Nancy Wiggington lease, in the Jolly Pool, near Buford, in the western part of Ohio County, several miles west of the Ambrose-Weller Pool that put Ohio County on the oil map of the State. Some two years ago a couple of small oil producing wells were found on what is known as the Chicken farm, and for a long period nothing was done to give the area a thorough testing until the initial test on the Wiggington was brought in for big production in the Stray sand formation, the same formation that developed such large producing wells in the Bartlett, Morgan and Barnett Creek Church Pools. The Buford well on the Wiggington lease is a short distance to the northwest of the Barnett Creek Church Pool. With the completion of the initial well on the Wiggington, there was a rush for leases, of which there were few that were not tied up. Then No. 2 on the Wiggington came in fully as productive as the initial venture. In this pool like other pools mentioned in that area of the county, there was a surprise in the drilling in of an offset to the Wiggington gushers, on the Dawson farm, that came in a real duster. This procedure parallels the Barnett Creek Church Pool, as when R. W. McMahan drilled the first well on the church lot of 3 acres and got a 500-bbl. initial producer the drilling was rushed on all sides of the Church lot. Then McMahan drilled his second well on the Church lot and got a dry hole which is characteristic of the Stray sand pools so far opened in the northern part of Ohio County.

One of the feature finds of the week was the bringing in of a big gas well in No. 3 on the Lester lease, in Hopkins County that means an ample supply of fuel may soon be piped to Hawesville and Madisonville.

Week's Work

A summary of the week's work in Kentucky shows 24 completions, 13 producers with an initial production of 875 bbls., six dry holes and five gas wells.

County—	Comp.	Oil wells	Prod.	Dry	Gas
Ohio	20	10	665	6	4
Daviess	3	3	210	0	0
Hopkins	1	0	0	0	1
Total	24	13	875	6	5

Big Production

Production in five of the counties in the western Kentucky Field reached a peak in October, according to reports from the State. Ohio County led with a production of 372,389.66 bbls., valued at $627,349.36. Daviess County's production amounted to 98,938.94 bbls., valued at $166,620.97. Muhlenberg County's production was 8,607.05 bbls., valued at $14,174.81. Hancock County produced 1,001.95 bbls., valued at $1,683.29, and McLean County, 394.75 bbls., valued at $675.03, making a total production of the five counties for October, 481,332.35 bbls., valued at $810,503.46. Ohio County production for October was 53,196.66 bbls. over September. Daviess County's

(Continued on Page 96)

HERCULES TOOLS MAKE HAPPY WORKING DAYS THROUGHOUT THE YEAR

HERCULES TUBING ANCHOR + HERCULES ROTATOR

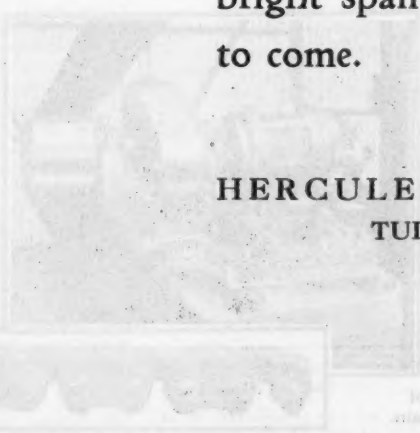
HERCULES CASING HEAD + HERCULES TUBING SPIDER

Merry Christmas

Our Wish On This Happy Yuletide and Eve of a New Year

May you and yours enjoy all the happiness and abundant prosperity for a most joyful holiday spirit. Our appreciation of the opportunity to serve you during the past year is our pledge to better with the new year what the past have accomplished. May 1930 prove a bright span for you in the years to come.

HERCULES TOOL COMPANY
TULSA, OKLAHOMA



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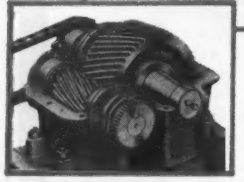
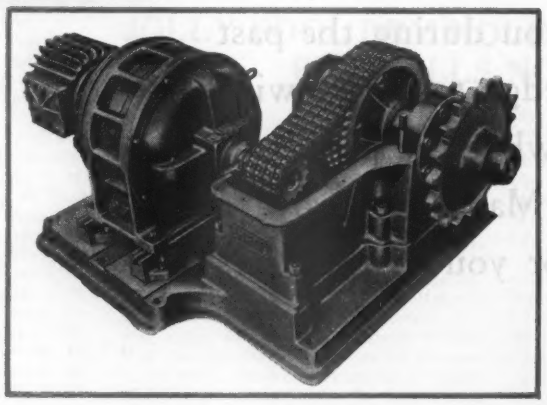


Left:
Gear case with cover removed to show helical gears.

HELICAL GEAR DRIVE
(*Type G*)

The Type G Reduction Gear is designed for the heaviest rotary and cable tool drilling. Although rated at 200 H. P., it is being used in conjunction with much larger motors. The wide face gears, machined from alloy steel forgings, insure great strength and long life. It is furnished in three speed ratios . . . 3:1, 3¼:1 and 3½:1.



ROLLER CHAIN DRIVE
(*Types EA and BC*)

The Types EA and BC Reduction Gears are for medium drilling and pumping. These gears are heavily reinforced throughout, the lower part of the chain case and the main frame and bearing pedestals are cast integral assuring perfect alignment of the bearings. The Diamond Quadruple Roller Chain is exceptionally strong . . . the average tensile strength being 134,000 lbs.

SILENT CHAIN DRIVE
(*Types B and E*)

The Types B and E Silent Chain Reduction Gears are intended for pumping duty. The American Silent Chain is made of Nickel Steel throughout, and is especially designed for high speeds, making it ideal for this type of work. The motor is mounted on slide rails to permit adjustment of the tension in the chain; the unit as a whole is also mounted on slide rails to allow adjustment of the drive to the band wheel.

For further information, write for Bulletin No. 38.

Right:
Section of silent chain.

All Emsco and D+B Products (Except Derricks) Sold Exclusively in Mid-Continent Fields by The Continental Supply Company

EMSCO STEEL EQUIPPED WELLS ARE SAFE

Andrews County Wildcat Looks Better

Latest Gauge Seems to Substantiate It as Discovery of New Pool in Permian Basin. Adds Interest to Ector County

By L. E. Bredberg
Staff Correspondent, West Texas Fields

FORT WORTH, Tex., Dec. 16.—This morning's gauge of the Andrews County wildcat, owned by the Deep Rock Oil Co. and others, practically proved that a pool was being uncovered in this part of the Permian Basin, although previous appearances of the test made it look quite skeptical. These previous appearances, coupled with the location in this part of the basin, still leave doubts in the minds of many, but it seems that the porous texture of the lime at the bottom of the hole, lends itself to substantiation of the test as really a new discovery, and that a new pool has been found to add to the many now already producing in West Texas.

This test, located on the Ogden ranch, 2,310 feet from the east line and 330 feet from the south line of Section 6, Block A-46, Public School lands, has a slight showing of oil from 4,305-09 feet, and the big pay from 4,345-48 feet. On December 10 it made three flows, on December 11 it made three, each of them lasting about five minutes and yielding 15 bbls. per head. On December 12 it flowed seven minutes, flowing 75 bbls. during the 24 hours. The swab was run, producing 15 bbls. On December 13 it swabbed 30 bbls., swabbing to the bottom. Seven hours after swabbing to the bottom it filled up 1,000 feet with oil, no water showing, the oil testing 29.1 gravity.

The well was then deepened to the present depth of 4,395 feet, striking a second big pay horizon from 4,361-66 feet, and started making intermittent flows. In the 24 hours, ending 7 a.m. today it flowed a total of 192 bbls., standing with a hole full of oil at the present while the crew fishes for tools and several hundred feet of wire line which have been lost in the hole. The formation found at the bottom of the hole seems to have softened, and the bit to have found lime, while at first the shows were encountered in dolomite, which helped to bring out the skeptical ideas as to the possibility of the test. As soon as the tools and line are fished out a test will be made to determine the condition of the well as it stands at 4,395 feet, and if the production does not hold up, drilling may be resumed.

Well Thought in Trend

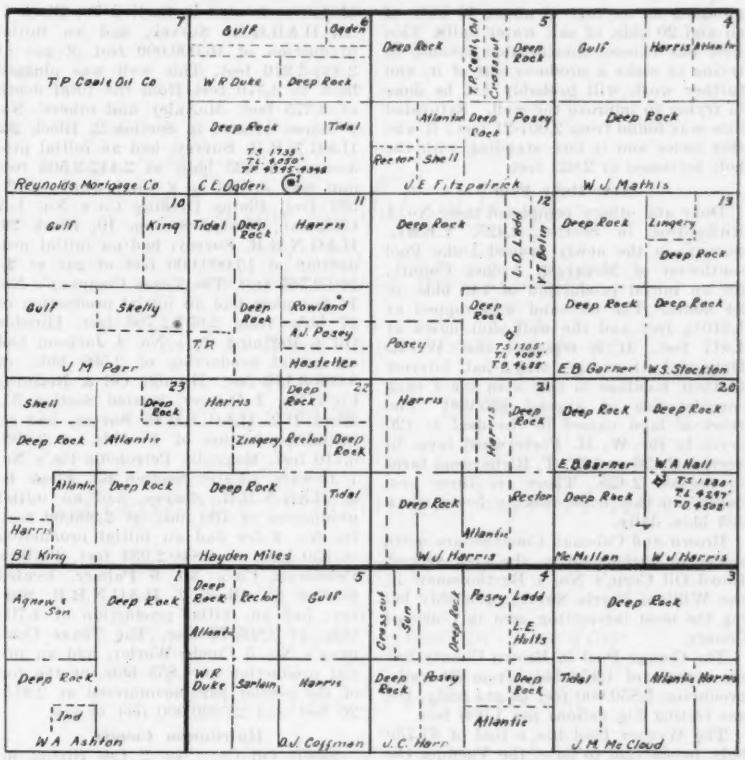
The nearest production to this test is in the Llano Pool, northeastern Winkler County, a distance of approximately 32 miles, in the Judkins area of Ector County, 40 miles due south, and in the Hobbs area of New Mexico, 35 miles to the west. Many are of the opinion that that new well is on a trend which extends from the Ector County Pool up through northern Ector County, Andrews County and over into New Mexico, and as a result of this belief considerable acreage has been changing hands in Ector County between the two producing spots, and in southern Andrews County. There have been several dry holes drilled in these counties, but they are believed to be on the flanks of the "high" or have never reached the lime, consequently do not lend any material aid in the correlation of the pay in the Deep Rock test with the Ector County production. Other tests between these two areas may tend to prove a connection, and no doubt locations will soon be made by companies seeking the Ector or Andrews County pay horizons.

The Deep Rock Oil Co. has made a south offset location to the discovery well, this second test to be located 330 feet from the north line and 2,310 feet from the east line of Section 11, and another tentative location 1 mile to the east, two tests which will prove whether there is really a structure under this acreage, and if a pool of considerable proportions is to be opened. All tests in Andrews and Ector Counties will be more interesting since this find, and wells drilled in these two areas more closely watched than heretofore. Another week will perhaps give the full status of the discovery, and more locations may be announced for Ector and Andrews Counties.

The Shell Petroleum Corp.'s well in Section 16, in the Shipley Pool Ward County, is drilling ahead at 3,012 feet with no increase in oil. There are 3 bailers of water showing every three hours, and the hole has 1,925 feet of fluid in it. The second pay in this well was found below the regular Shipley pay, at 2,556-93 and 2,909 feet, and this pay threatened to give the second producing horizon to this pool, but so far it has failed to materialize and the company is drilling deeper in hopes of picking up an increase in oil.

The Texas Company and others have completed their No. 1 Campbell in Section 46, Block 10, H.&G.N. Survey, Pecos County, for a producer which is averaging around 67½ bbls. daily from a pay found at 1,710 feet. This well was drilled to a total depth of 2,504 feet, but encountered sulphur water and the owners plugged it back to 1,775 feet and shot it with 60 quarts from 1,699-1,749 feet, cleaned it out and put it on the pump in which status it continues to make the above amount daily.

The Phillips Petroleum Corp.'s No. 3 Courtney (Pryor), 9 miles northwest of Stockton in the new Courtney or Pryor Pool, was completed for an initial production of 77 bbls. in 10 hours, pumping. However, it pumped off, and does not look as substantial as No. 2 Courtney, the present producer. Top of the pay in No. 3 was found at 1,380 feet, and total depth is 1,397 feet. It is located in Section 78, Block OW, T.&M. Survey.



Plat showing location of Deep Rock Oil Co.'s No. 1 Ogden, in Andrews County. This test is approximately 25 miles northeast of the Llano Pool in north Winkler County.

Irion Deep Test

The Kingwood Oil Co.'s No. 1 Suggs, in Section 19, Block 7, H.&T.C. Survey, the deep test of Irion County, is shut down at 7,818 feet after encountering salt water at this depth. It was plugged back to 7,718 feet with lead wool, and to 7,668 feet with cement. It will probably be shot from 7,656 feet where the last showing of oil was found with an estimated 140,000 feet of gas. Striking of water in this deep test, east of Reagan County where the deep producers are in the Big Lake Pool, rather casts an ominous glow over deep drilling, and may have much weight in preventing further deep tests in the basin, at least, for the present when deep drilling is far from necessary for production.

Last week the Shaheen and others' No. 1 King in Section 197, M. Bueno Survey, in the Hawley area of Jones County, was reported as having a good showing of oil which tested 36 gravity. At present the owners are testing this well. It has 500 feet of oil in the hole, and has the appearance of a small producer. Top of the pay was found from 2,061-64 feet in lime. Total depth is 2,066 feet.

Big Lake Pool

Texon Oil & Land Co.'s No. 1-B University, the deep producer in the Big Lake Pool, Reagan County, which has

(Continued on Page 146)

Pecos County Operations

Cranfill & Reynolds' No. 1 Masterson in Section 104, Block 10, H.&G.N. Survey, Pecos County, has been drilled to a total depth of 1,495 feet with no increase in pay. Top of the pay in this wildcat was found at 1,439 feet where it has been shut down for several weeks producing around 20 bbls. per day, 32 gravity oil. Deepening was thought to be an aid to increase production but it has not yet brought about the desired effect, and water may be struck before a larger producer is made of it.

In the Taylor-Link Pool, Pecos County, the Taylor-Link Oil Co.'s No. 2 University in Section 31, went dead and was plugged back to the shallow pay at 950 feet where it is now pumping 100 bbls. daily. Landreth Production Co.'s No. 3-D University, in the same section, Block 16, was drilled to 1,687 feet and hit sulphur water with but a slight show of oil at 1,675 feet, consequently the company is plugging back to the shallow pay to produce it. Shell Petroleum Corp.'s No. 1-C University, the first big well of this pool, completed at the total depth of 961 feet, has gone dead and been deepened to 1,648 feet. The deep pay was found at 1,616 feet and it was completed at this greater depth for a 375-bbl. well. Sanding has given trouble as it has other wells in this pool.

WILDCAT OPERATIONS IN WEST TEXAS

Week Ended December 16

ANDREWS COUNTY

Company, farm and location—	Remarks—
Deep Rock's No. 1 Ogden, 2,310 ft. E, 330 ft. S, Sec. 6, Blk. A-46, Public School Land	Top pay 4,345 ft.; top lime 4,050 ft.; shut down 4,348 ft.; swabbed 30 bbls.; swabbed dry; cleaning out 125 ft. off bottom; set 6-in. casing 4,125 ft.

BORDEN COUNTY

Moncrief et al's No. 1 Munger, C of SW, Sec. 14, Blk. 31	Drlg. by tools 2,425 ft.
Teas & Wheeler's No. 1 Long, 1,320 ft. N and E of Sec. 27, Blk. 30, T.&P. Sur.	Top salt 1,030 ft.; drlg. 3,992 ft.

BREWSTER COUNTY

E. W. Bateman et al's No. 2 Nevill, 2,000 ft. S and W line of Sec. 62, Blk. 13, G.H.&S.A.R.R. Sur.	Shut down 2,612 ft.
Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor., Sec. 45, Blk. G-15, G.C.&S.F. Sur.	Fishing 1,935 ft.
Forrest Oil Co.'s No. 1 Skinner, C SW SE, Sec. 100, Blk. 2, G.C.&S.F. Sur.	Drlg. 900 ft.
Grastorf et al's No. 1 Redfield, 920 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.&S.F.R.R. Sur.	Drlg. 200 ft.
Van McPhail's No. 1 McIntyre, SE cor., Sec. 59, Blk. 352, 7 mi. S of Alpine	Shut down 1,740 ft.

COKE COUNTY

Lipan Oil Co.'s No. 1 E. C. Rawlings, Sec. 390, Blk. 1-A, H.&T.C. Sur., elev. 2,750 ft.	Shut down 2,892 ft.
Mid-Kansas Oil Co.'s No. 1 W. E. Lackey, 330 ft. N and E of SW cor., Sec. 272, Blk. 1-A, H.&T.C. Sur.	Pay 3,755-56 ft.; 6⅝-in. casing at 3,451 ft.; underreaming at 4,058 ft.; total depth 4,250 ft.; waiting orders to plug.

Waggoner Pasture Has Good Producer

Gray County's Daily Average Jumps 3,113 Bbls. Daily Due to Large Completions. Palo Pinto Gets Attention

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Dec. 16.—One of the largest producers yet completed in the Waggoner pasture, Wilbarger County, was put on production this week by the Davis Oil Corp. when its No. 4 Waggoner, 300 feet west of No. 3 in Section 35, Block 4, H.&T.C. Survey, came in for 1,063 bbls. in 23 hours on open flow. Top of the pay was found at 2,645 feet, and it was bottomed at 2,672 feet. Other good wells have been brought in in this section, which seems to be the best one in the pasture. The county produced 29,346 bbls. daily this week, this pool making up the greater amount of this production.

Gray County's daily average jumped 3,113 bbls. daily to a total of 64,608 bbls. daily this week due to the completion of several large producers. The Phillips Petroleum Corp.'s No. 6 Palmer was one of the largest. It came in for an initial production of 4,700 bbls. from granite wash pay found at 2,805 and 2,860 feet. Total depth was 2,870 feet. The Texas Company's No. 3 Combs-Worley, which was completed last week at a total depth of 2,765 feet, flowing 725 bbls. the first 24 hours, 2,085 bbls. the second 24 hours and settled down to 150 bbls. per hour, was drilled to 2,820 feet this week and encountered a second pay from 2,815-20 feet and completed for an initial production of 4,853 bbls. of oil with 25,000,000 feet of gas. Eight other wells were completed in Gray County during the week, but they were considerably smaller than the two mentioned.

Sheldon and Venmex completed their No. 2 Volkart, in the new Volkart area of Wichita County, for an initial production of 100 bbls. It topped the pay at 1,900 feet and was botomed at 1,933 feet. This well is 300 feet east of their No. 1, the discovery well in this area, in Block 309, Waggoner Colony Subdivision.

Palo Pinto County Well

The northwestern part of Palo Pinto County came in for considerable attention today when Prairie Oil & Gas Co. and Amerada Petroleum Corp.'s No. 1 Vick, in the north half of the L. J. Pitts Survey, Abstract 1,289, encountered an oil sand from 1,557-60 feet and filled up 1,200 feet with oil in 12 hours in a 10-inch hole. The test is now shut down for 8-inch casing at 1,560 feet, and it will be several days before this can be set and the wildcat tested. The nearest production to this well is on the Gulf Production Co.'s and Sinclair Oil & Gas Co.'s leases in 1,722 and 1,723, T.E.&L., 3 miles southeast, and this new test looks as if oil production may be opened in this corner of the county. The sand is believed to be the Strawn.

Dillard and others' No. 1 Furneaux Brothers, in the SE of Section 202, Block B-2, H.&G.N. Survey, Gray County, was deepened to 3,080 feet this week encountering an increase in oil from 3,175-80 feet, and spraying about 20 bbls. per day. The gas decreased from 10,000,000 to 7,000,000 feet. This is a wildcat on the western side of Gray County, and showed up as a producer three weeks ago when it started spraying about 5 bbls. of oil with 10,000,000 feet of gas, at total depth of 3,075 feet.

In Jack County an interesting test was abandoned in the Buttram Oil Co.'s No. 1 Lindsey, in the I. N. Wright Survey, a west offset to this company's No. 1 Boyd, which was a wildcat discovery in this area July 18, 1929. Total depth of this last test is 3,515 feet; it missed the pay found in the Boyd well, which is producing from 2,423 feet.

The Shell Petroleum Corp. and Fain & McGaha Oil Corp.'s No. 1 French in the Tarver Pool, Foard County, is now pumping an average of about 60 bbls. of oil and 20 bbls. of salt water daily. This well has caused considerable trouble in trying to make a producer out of it, and further work will probably not be done in trying to improve the well. Saturated lime was found from 2,007-21 feet; it was shot twice and is now standing with the hole bottomed at 2,021 feet.

New Duke Pool

Duke and others' completed their No. 1 Richardson in Section 2,425, T.E.&L. Survey, in the newly opened Duke Pool southwest of Megargel, Archer County, for an initial production of 148 bbls. in 24 hours. The oil sand was topped at 1,410½ feet and the well shut down at 1,417 feet. It is reported that W. R. Duke and others have sold a half interest in their holdings in this area for a cash consideration of around $65,000. The tract of land named in the deal is 120 acres in the W. H. Porterwood farm in Section 2,426 and W. T. Richardson farm in Section 2,425. There are three producers on this lease making better than 225 bbls. daily.

Brown and Coleman Counties are quite active in various parts, the area around Lloyd Oil Corp.'s No. 1 Bartholomew in the William Ferris Survey, probably being the most interesting area in Coleman County.

The George Pool in Brown County has an average of 1,956 bbls. from 39 wells, producing 1,850,000 feet of gas daily, the gas testing 3½ gallons per 1,000 feet.

The Weaver Pool has a toal of 61,750 bbls. production to date, the Vacuum Oil Co. claiming 24,610 bbls. of the total amount.

PANHANDLE COMPLETIONS

Carson County

Empire Oil & Gas Co.'s No. 3 Deahl, located in Section 3, Block 5, B.&B. Survey, had an initial production of 44,000,000 feet of gas at 2,305-14 feet. Skelly Oil Co.'s No. 21 Schaefer, located in Section 68, Block 4, I.&G.N.R.R. Survey, location was abandoned.

Gray County

Danciger Oil & Refining Co.'s No. 1 McLarty, located in Section 10, Block 1, A.C.H.&B.R.R. Survey, had an initial production of 16,000,000 feet of gas at 2,485-3,370 feet. This well was plugged back to 3,370 feet from the total depth of 3,375 feet. McAuley and others' No. 2 Morse, located in Section 2, Block 26, H.&G.N.R.R. Survey, had an initial production of 225 bbls. at 2,442-2,505 feet and was drilled to a total depth of 2,531 feet. Plains Drilling Co.'s No. 1-A Chapman, located Section 10, Block 26, H.&G.N.R.R. Survey, had an initial production of 15,000,000 feet of gas at 2,240-2,765 feet. The Texas Company's No. 14 Saunders had an initial production of 27 bbls. from 2,697-2,766 feet. Humble Oil & Refining Co.'s No. 4 Jackson had an initial production of 2,500 bbls. at 3,088-3,110 feet. Humble Oil & Refining Co.'s No. 1 Palmer, located Section 31, Block B-2, H.&G.N.R.R. Survey, had an initial production of 45 bbls. at 3,090-3,110 feet. Magnolia Petroleum Co.'s No. 7 Bowers, located Section 63, Block B-2, H.&G.N.R.R. Survey, had an initial production of 700 bbls. at 2,990-99 feet. Its No. 4 fee had an initial production of 150 bbls. at 2,840-2,934 feet. Phillips Petroleum Co.'s No. 6 Palmer, located Section 81, Block 2, H.&G.N.R.R. Survey, had an initial production of 4,700 bbls. at 2,805-70 feet. The Texas Company's No. 3 Combs-Worley, had an initial production of 4,853 bbls. at the top of the second pay encountered at 2,815-20 feet and 25,000,000 feet of gas.

Hutchinson County

Skelly Oil Co.'s No. 2 Lee Bivins, located in Section 84, Block 46, H.&T.C. R.R. Survey, had an initial production of 268 bbls. at 3,008-13 feet. The Texas Company's No. 3 Moore, located in Section 125, Block 4, I.&G.N.R.R. Survey, had an initial production of 110 bbls. at 3,080-3,100 feet.

Wheeler County

Lone Star Gas Co.'s No. 1 Stauffer had an initial production of 70,000,000 feet of gas at 1,535-1,620 feet. Magnolia Petroleum Co.'s No. 2 Laycock topped the pay at 1,825 feet, was drilled to a total depth of 1,860 feet and had an initial production of 59,000,000 feet of gas. Upham Gas Co.'s No. 7 Gooch topped the pay at 1,442 feet, was drilled to a total depth of 1,595 feet and had an initial production of 34,000,000 feet of gas. Wischkamper and others' No. 1 Curry topped the pay at 1,750 feet, was drilled to a total depth of 1,860 feet and had an initial production of 10,000,000 feet of gas.

NORTH TEXAS PRODUCTION

Week Ending December 14

Panhandle district—	Production
Carson County	9,595
Hutchinson County	27,255
Gray County	64,608
Moore County	740
Potter County	115
Wheeler County	460
Total production this week	102,773
Total production last week	100,615
Increase	2,158
Wichita district—	
Archer County	18,355
Baylor County	135
Clay County	880
Cooke County	6,710
Foard County	160
Jack County	4,290
Haskell County	90
Montague County	6,460
Throckmorton County	640
Wilbarger County	29,346
Young County	7,165
Wichita County	24,925
Total production this week	99,156
Total production last week	102,233
Decrease	3,077
Ranger district—	
Brown County	9,525
Callahan County	3,010
Coleman County	6,455
Comanche County	1,155
Palo Pinto County	530
Eastland County	5,010
Shackelford County	9,300
Stephens County	6,070
Total production this week	41,055
Total production last week	42,018
Decrease	963
Grand total production this week	242,984
Grand total production last week	244,866
Decrease	1,882

WICHITA FALLS DISTRICT

Week ending December 14

Archer County

Barkley-Meadows and others' No. 2 Wilson was dry and abandoned at 1,713 feet. L. T. Burns' No. 4 Wilson was dry and abandoned at 1,516 feet. Burns & Long's No. 6 Turbeville had an initial production of 23 bbls. at 1,480-84 feet. J. H. Howell's No. 1 Miller was dry and abandoned at 1,702 feet. L. T. Burns' No. 1 Dubose was dry and abandoned at 1,445 feet. E. H. Christie's No. 1 Kunkel was dry and abandoned at 1,213 feet. Douglas Oil Co.'s No. 5 McClure had an initial production of 20 bbls. at 1,287-89 feet. W. R. Duke's No. 1 Richardson had an initial production of 148 bbls. at 1,406-17 feet. Golden & Cochran's No. 2 Keike had an initial production of 21 bbls. at 1,426-29 feet. M. & V. O. Oil Co.'s No. 4 Lauster was dry and abandoned at 1,195 feet. Pandem Oil Corp.'s No. 1 Young had an initial production of 130 bbls. oil, 10 bbls. water, at 1,411-15 feet. R. S. Reeder's No. 6 Kunkel had an initial production of 96 bbls. at 1,158-65 feet. Sun Oil Co.'s No. 10 Richardson was dry and abandoned at 1,477 feet. J. R. Williams' No. 3 Kunkel was dry and abandoned at 1,220 feet.

Baylor County

Consolidated Oil Co.'s No. 4 Portwood was dry and abandoned at 1,427 feet.

Cooke County

Bridwell Oil Co.'s No. 4 Barrow was dry and abandoned at 2,020 feet. Humble Oil & Refining Co.'s No. 6 Poteet

(Continued on Page 115)

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending December 16

CARSON COUNTY

Company, well, farm, name, section and block—	Remarks—
Continental Oil Co.'s No. 2 Block, 990 ft. from N, 330 ft. from E, SE, Sec. 111, Blk. 4, I.&G.N.R.R. Sur.	Drlg. 1,815 ft.
Danciger O. & R. Co.'s No. 1 Block, 330 ft. from N and E lines, Sec. 112, Blk. 4, I.&G.N. Sur.	S.D. 2,851 ft.
Delmar Oil Co.'s No. 5 Noel, 330 ft. S and W, NE cor. W½ SE, Sec. 198, Blk. 3, I.&G.N. Sur.	S.G. 3,000-10 ft; S.D. 3,181 ft.
Empire G. & F. Co.'s No. 1 Fields, 1,650 ft. from N and E, Sec. 13, Blk. 7, I.&G.N. Sur.	Fishing 612 ft
Empire G. & F. Co.'s No. 2 Deahl, 660 ft. N and E. SW, Sec. 3, Blk. 5, B.&B. Sur.	Drlg. 2,500 ft.
Empire G. & F. Co.'s No. 1 Thorp, C NW, Sec. 26, Blk. T, A.B.&M. Sur.	Spudding.
Ham Oil Co.'s No. 1 Cooper, 330 ft. from S and W, E½ NE, Sec. 5, Blk. 9, H.&G.N.R.R. Sur.	Set 8-in. csg. 2,598 ft.
Herragan Oil Co.'s No. 1-A McConnell, 330 ft. from N and W, W½ SW, Sec. 187, Blk. 3, I.&G.N.R.R. Sur.	Drlg. 2,008 ft.
S. D. McElroy's No. 1 Block, 330 ft. from N and E, NE NW, Sec. 112, Blk. 4, I.&G.N.R.R. Sur.	Set 8-in. csg. 2,420 f..
McMan O. & G. Co.'s No. 1 McConnell, 330 ft. from N and E, E½ SW, Sec. 187, Blk. 3, I.&G.N.R.R. Sur.	Drlg. 2,590 ft.
Osborne et als' No. 3 Percival, 330 ft. N and W, SE cor. E½ NE, Sec. 199, Blk. 3, I.&G.N.R.R. Sur.	Location.
Pansota Oil Co.'s No. 1 Block, 330 ft. S and W, NE cor. SW, Sec. 111, Blk. 4, I.&G.N.R.R. Sur.	Rig.
Phillips Pet. Co.'s No. 1 Garner, 330 ft. N and E, SW cor. SW, Sec. 114, Blk. 4, I.&G.N. Sur.	S.D. 2,940 ft.
Prairie O. & G. Co.'s No. 2 Nail, 330 ft. from N and W lines, N½ E½ SE, Sec. 198, Blk. 3, I.&G.N. Sur.	10,000,000 ft. gas 2,830-2,985 ft; S.D. 3,113 ft.
Red River Gas Co.'s No. 3 Lee Bivins-A, C SE SE, Sec. 42, Blk. M-20, G.&M.R.R. Sur.	S.D. 620 ft.
Ryan Cons. Oil Co.'s No. 7 Block, 330 ft. N, 990 ft. W, SE cor. NE, Sec. 111, Blk. 4, I.&G.N.R.R. Sur.	Drlg. 670 ft.
Shell Pet. Corp.'s No. 1 Percival, 330 ft. from N and E, SE, Sec. 199, Blk. 3, I.&G.N. Sur.	Rig.
Skelly Oil Co.'s No. 19 Schafer, 330 ft. N, 990 ft. E, SW cor. NE, Sec. 198, Blk. 3, I.&G.N. Sur.	6,000,000 ft. gas 2,895-2,970 ft; S. D. 3,100 ft.
Skelly Oil Co.'s No. 20 Schafer, 330 ft. N, 990 ft. W, SE cor. N½, Sec. 198, Blk. 3, I.&G.N. Sur.	S.D. 3,090 ft.

(Continued on Page 78)

To our faithful old friends

. . . our cherished new friends

. . . and to those whose friendship we

strive to deserve . . . we tender

Hearty Christmas Greetings

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Pipe Line Construction News

OHIO OIL REACQUIRES ILLINOIS PIPE LINE

NEW YORK, Dec. 16.—Ohio Oil Co., which relinquished the Illinois Pipe Line Co. more than 14 years ago, has taken steps to re-acquire the line. A special stockholders meeting has been called by Ohio Oil Co. for December 30 to vote on an increase in capital through issuance of a new 6 per cent preferred issue, and the exchange of this stock for that of Illinois Pipe Line Co.

Stockholders will vote on the creation of 600,000 shares of 6 per cent cumulative preferred stock of $100 par, which will be exchanged for Illinois Pipe Line stock on the basis of three shares of the new stock for each share of Illinois Pipe Line. The pipe line company has outstanding $20,000,000 of capital stock.

Ohio Oil Co. divested itself of Illinois Pipe Line Co. in 1915, and in January of that year distributed to its stockholders the $20,000,000 stock of the Illinois Pipe Line Co., which had been formed to take over Ohio Oil's pipe line properties. The distribution was made on the basis of one share of Illinois Pipe Line stock of $100 par for every three shares of Ohio Oil of $25 par.

This segregation was not a part of the Standard Oil dissolution order, but arose from a ruling under the Interstate Commerce Act declaring pipe line companies to be common carriers.

Ohio Oil Co. and Illinois Pipe Line Co. have maintained close relations since 1915, however, Illinois Pipe Line providing the transportation facilities in most of Ohio's field development work. When Ohio Oil, as operator, through its subsidiary, Mid-Kansas Oil & Gas Co., undertook development of Transcontinental Oil Co.'s holdings in the Yates Field in West Texas, Illinois Pipe Line Co. built a line running from the field, which developed into a prolific producer, to Del Rio, with a connection to Lytle, where it joined the Humble main line to the Gulf. In the Rocky Mountain area, likewise, Illinois Pipe Line provided a pipe line outlet for Ohio's operations.

SERVICE LINES IN MONTANA

CASPER, Wyo., Dec. 16.—On the Bowdoin Dome, Montana, Perkins & Jones have completed their No. 15 in the shallow gas pool and the service lines are being laid in the cities of Malta, Saco, Glasgow and Bowdoin. This gas system is fed from a shallow gas pool on the Bowdoin Dome and the company states there is every assurance the gas will supply the needs of the communities for several years.

The company has recently secured several thousand acres of leases on the Bowes Dome and announced franchises have been secured for Moosejaw and Regina, Canada, and that lines will be laid to supply these points as soon as sufficient gas is assured. T. P. Jones of the company stated drilling operations to test several structures for gas will be carried on this winter in spite of the weather and that if the development warrants it, lines will start laying in the spring.

LAYING GAS LINE IN KANSAS

The Thriller Oil & Gas Co. is laying a gas pipe line from northern Wilson County to the gas field in the eastern part of Greenwood County. The latest completion in the gas field in Greenwood is O'Hern and others' No. 3, in the C SW NE, Section 4-26-13, which is a 5,500,000-foot gas well at 1,525-35 feet. The well is southeast of Neal, where additional wells may be drilled with the prospect of an outlet for the gas in that region.

TO EXTEND CALIFORNIA GAS LINE TO OREGON AND WASHINGTON

LOS ANGELES, Calif., Dec. 16.—Pacific Gas & Electric Co. has been collecting data on the cost and feasibility of extending its natural gas service into Oregon and Washington. Southern California natural gas is already being furnished into the Bay section and plans for its relay to northern California have already been completed.

In the event that the company decides to enter this new territory in the Northwest, it will mean the building of a new 20-inch pipe line from Sacramento north. The existing artificial gas line is only capable of serving the small communities in northern California, it now supplies with manufactured product.

The Pacific Gas & Electric's new gas pipe line up the east side of the San Joaquin Valley from Kettleman Hill will be 26 inches instead of 22 inches, the latter size being the size of the line running by way of San Jose. The line will not only serve the cities and towns along the east side of the valley and the San Francisco Bay region but will also extend to Sacramento and there connect with the existing pipe line which carries artificial gas as far north as Redding. For the present this line will handle the natural gas service when the connection is made in Sacramento in March, 1930.

Two weeks ago the Pacific Gas & Electric Co. shut down its lignite coal mine in Shasta County, according to report. The product of this mine had been used the past two years to manufacture artificial gas at Marysville.

The Southern California Gas Co. has its line finished from Kettleman Hills to Hanford where it hooks up with the existing line formerly carrying artificial gas between Hanford, Visalia, Tulare, Dinuba, Lindsay, Exeter and Porterville. It is the intention to parallel the existing line with a new 10-inch line at once in anticipation of increased demand. It will be provided with double facilities as a precaution against a breakdown of one line.

From Kettleman Hills to Midway Southern California Gas has put in a 16-inch line.

Standard Oil has not made public any of its natural gas plans, except the announcement, made at a hearing before the Railroad Commission, that it has acquired the Consumers Gas Co., which serves an area in Alameda, and several counties in the San Joaquin Valley. It has been reported from a number of sources, however, that its representatives have been getting prices for the delivery of 16, 20 and 22-inch pipe at various points sufficient to build several hundred miles of lines.

LINE FROM KETTLEMAN DIRECT TO TANKERS

LOS ANGELES, Calif., Dec. 16.—Water is being run through the Standard Oil pipe line between Kettleman Hills and the Morro Bay shipping terminal to test the new line before turning in the light gravity oil and casinghead gasoline which will be delivered directly to tankers as soon as the line is ready for use.

One of the problems in building the line was to provide expansion and contraction space so that breaks would not occur. In tests it has been shown that certain sections cut open contract and expand as much as 7 inches. The tests are to overcome these conditions so that breaks will not occur from such strains.

With the new line in operation, the Kettleman output will have the shortest route to ocean transportation of any field in the San Joaquin Valley and be at no disadvantage against oil from the Los Angeles Basin fields in handling charges. The pipe line is about 70 miles in length. Tanks on the hills overlooking the water end of the line are the receiving end from the Kettleman Hills Field.

The 16-inch pipe line from the field to the Standard's tank farm on top of Torro Point adjacent to Morro Bay and Cayucos is said to be one of the strongest pipe lines ever constructed. It will withstand a pressure of 1,000 pounds to the inch. The pipe connects with two steel tanks with floating covers which rise and fall with the oil in the tanks. Each tank has a capacity of 80,000 bbls. Other tanks are now being constructed.

The submarine pipe line is 3,000 feet in length, nine-sixteenths of an inch thick, weighing 93 pounds to the foot. The shore part of the line, about 400 feet in length is incased in a 20-inch steel pipe with the inner pipe set in asphalt. From the offshore end of the submarine line 200 feet of heavy rubber hose connects with the tankers.

It is estimated that the entire plant and line from Kettleman Hills to Morro Bay has already cost about $2,000,000.

GAS LINE FROM ABILENE

FORT WORTH, Tex., Dec. 16.—The Lone Star Gas Co. has completed its survey and has material on the ground to start the construction of 25 miles of 4-inch pipe line from the town of Abilene in West Texas to the small towns of Buffalo Gap, Tuscola, Ovalo and Lawn to the south. The gas will come from the 8 and 18-inch lines running through Abilene from the east serving the towns farther west of Abilene. This new line will be completed in about six weeks.

The Lone Star company has about completed its 72 miles of 6 and 8-inch gas line which runs off the main line between Fort Worth and Dallas to the towns of Seagoville, Crandall, Eustace, Kemp, Maybank, Malakoff and Athens. The town plants are about all completed and the gas will soon be turned on in these new lines. Large brick plants at Malakoff and Athens will consume a large quantity of gas in the manufacture of brick.

LINE IN WHEELOCK POOL

FORT WORTH, Tex., Dec. 16.—The Lloyd Oil Corp. is laying a 3-mile 3-inch line from its lease in the Cyrus Underwood Survey, in the Wheelock Pool, Cooke County, to a point on the Santa Fe about 7 miles south of Gainesville. Only one well has been drilled in by the company, but seven more are shut down on top of the pay, pending completion of the line and consummation of a contract for the production by some refinery. Combined production from the eight wells is estimated around 700 bbls. daily.

The lack of pipe line outlet has held down the development of this pool, but as soon as this small line is completed and arrangements made for the disposal of the production, other wells will no doubt be drilled on the Lloyd and offset leases and a pool of considerable proportions may be developed.

PIPE LINE EXTENDED IN BRADFORD FIELD

BRADFORD, Pa., Dec. 16.—The National Transit Co. has started work in laying a 10-mile loop of 6-inch pipe from its Duke Center station toward East Kane. This loop will extend to Simpson and will increase the capacity in the southeasterly movement of crude to 15,000 bbls. per day. The right of way has been obtained and the contract for the work has been given to Rich & Co. of this city, who have employed more than 125 men. It is believed the loop will be completed by early February, by which time new machinery now ordered for Duke Center station should be delivered from the National Transit shops in Oil City.

This station is being enlarged and will contain three pumping units with a total daily capacity of 25,000 bbls. If the local production continues to increase the National Transit will extend its loop next year from Simpson to East Kane which will give the Duke Center station a line capacity of 21,000 bbls. daily.

The Forest Oil Co. is erecting three additional tanks at Duke Center which will give that company a total tankage capacity at that place of 80,000 bbls. These tanks are used in delivering crude to either the National Transit Co. or the Vacuum Oil Co.

The Bradford Transit Co. is erecting two 10,000-bbl. tanks at Duke Center, which is a part of its tankage program now under way. The company has contracted for 18 tanks with holding capacity of 61,500 bbls. to be erected at its various gathering stations throughout the Bradford and Allegany Fields.

The company is also engaged in laying a large amount of 4-inch lines owing to the increasing production. Such a line has been completed from Sawyer City to East Bradford and through to Foster Brook and Tuna. A 6-inch gravity line is planned from Lewis Run to Foster Brook with a 4-inch line from the Airport to Foster Brook. The Bradford Transit Co. is also installing a number of electric pumps, but the large amount required to be run daily compels this necessity.

PROPOSED 50-MILE GAS LINE TO SHERIDAN, WYO.

CASPER, Wyo., Dec. 14.—Ivan D. Smith, of Cedar Rapids, Iowa, has been granted a permit by the Public Service Commission of Wyoming to construct a natural gas line from the Billy Creek Field in Johnson County to the towns of Buffalo and Sheridan, a distance of 50 miles. The permit provides that construction shall begin by July 1, 1930. The Carter Oil Co., jointly with the Western Exploration Co. and the Consolidated Royalty Oil Co., control the Billy Creek structure where large quantities of gas have been developed in about a dozen wells which have been shut in for lack of a market.

WILBARGER COUNTY LINE

WICHITA FALLS, Tex., Dec. 16.—Waggoner refining interests in Vernon will begin the construction of a new 6-inch oil line from the various pools in Wilbarger County to Wichita Falls. The pipe is ordered, and the right of way has been staked out with the view of starting at the earliest possible time.

The new line will have an approximate length of 28 miles, traversing the heart of Wilbarger production.

Several miles of gathering lines will take care of the oil from the pools to the terminus at Wichita Falls, where the crude will be discharged at the various refineries.

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KANSAS FIELDS

(Continued from Page 54)

Sharky & Ames' No. 1 Davison, CWL NW NW, Section 22-31-10, is rigging up. Flemming and others' No. 1 Selsan, SW cor., Section 9-29-9, has been completed for 100 bbls. in sand 2,640-41 feet.

Cowley County

Roth & Faurot's No. 1 Holt, SW cor. NE SE, Section 12-32-4, is a rig going up. Landon and others' No. 1 Wheeler, SW cor. NW SE, Section 24-30-4, is dry and abandoned at 2,991 feet.

Greenwood County

Ritchey & Moore made location for No. 2 Pixlee, SW cor. NE SE, Section 7-22-10. York State Oil Co. staked location for No. 1 Pedroja, SW cor. NE, Section 15-23-11. Waltom Oil Co. made location for No. 1 Mossman, SW cor. SE, Section 3-24-12. No. 2 Dalton, NW cor. SW NW, Section 5-24-13, is rigging up. Sheedy and others' No. 5 Sharp, NW cor. SE NW, Section 5-24-13, is drilling at 1,090 feet. Mendenhall and others' No. 3 Grossarth, CWL NW NW, Section 9-25-13, is rigging up. Marshall and others' No. 1 Ott, NE cor. SW SW, Section 12-24-11, is dry and abandoned at 1,938 feet. Mid-Continent Petroleum Corp.'s No. 15 Sullivan, NW cor. NE NW, Section 14-24-12, has been completed for 25 bbls. in sand 1,728-41 feet. Mendenhall and others' No. 2 Grossart, CSL NW NW, Section 9-25-13, made 10 bbls. in sand 1,473-78 feet.

Harvey County

Waltom Oil Co.'s No. 1 Neiman, C SE SW, Section 13-24-2, has been abandoned at 3,365 feet.

Lyon County

Sheedy and others made location for No. 1 Reese, SW cor. SE, Section 16-20-10. No. 5 Hughes, NW cor. SW SW, Section 19-21-10, is rigging up. Mortlock and others' No. 1 Dubott, NW cor. NE, Section 24-20-11, is a dry hole at 2,065 feet.

McPherson County

Harry Skelly and others' No. 1 Neufeldt, SE cor. NE, Section 19-21-3w, is a cellar. Helmerick & Payne and others made location for No. 1 Kaufman, NW cor. NE NW, Section 22-21-3w. McCulloch Oil Co. staked location for No. 1 Sperling, SE cor. NE, Section 29-21-3w. Mid-Kansas Oil Co.'s No. 1 Kuns, C SE SW, Section 11-20-5w, has been abandoned at 4,054 feet. Shell Petroleum Corp.'s No. 1 Holmes, NE cor. NW, Section 12-20-2w, has been completed for 269 bbls. in chat 2,980-3,028 feet.

Saline County

Dixie Oil Co.'s No. 1 Olson, NW cor. NE, Section 10-16-3w, is a dry hole at 3,602 feet.

Sedgwick County

G. L. Ramsey and others' No. 2 Evans, SW cor., Section 2-26-1w, Valley Center Field, is dry and abandoned at 3,512 feet. Bu-Vi-Bar Petroleum Corp. and others' No. 9 Wright, NE cor. NW SE, Section 12-26-1w, made 604 bbls. in sand 3,345-49 feet. Burnett Oil & Gas Co.'s No. 1 Davidson, NW cor. SW, Section 27-26-1, has been abandoned at 3,500 feet. Shell Petroleum Corp.'s No. 1 Morris, SE cor., Section 10-26-2, has been completed for 167 bbls. in chat 2,895-98 feet. T. M. Deal and others' No. 1 Johndro, NE cor. SW SE SW, Section 15-26-2, Lot 9, Block 8, Greenwich Townsite, made 120 bbls. in chat 2,924-27 feet.

Woodson County

Harper Oil & Gas Co.'s No. 3 Reed, CEL SW NE, Section 28-23-14, is drilling at 530 feet.

OKLAHOMA FIELDS

(Continued from Page 52)

dall Oil Co.'s No. 1 Factor, NW cor. SE, Section 13-7-6, was drilling in the Simpson at 4,105 feet, on December 13, the top was found at 4,091 feet. Empire Oil & Refining Co.'s No. 3 Charity, NE cor. SE NW, Section 13-7-6, had a showing of oil and gas in the Simpson at 4,155 feet, and was shut down.

Maud Pool shows a decline for the week of about 150 bbls. daily. Shell Petroleum Corp.'s No. 3 Jordan, SW cor. SE NW, Section 9-8-5, was shot with 30 quarts and flowed 300 bbls. in 11 hours. Same company's No. 4 Jordan made 289 bbls. on the gas lift December 12. Continental Oil Co. and others' No. 1 Simpson, east of Maud, in Section 26-8-5, was drilling in the Cromwell sand at 3,650 feet, with nothing showing. The top of the Cromwell sand was found at 3,610 feet.

St. Louis' Slight Increase

St. Louis Pool continues to show small increase in its production. The daily average for the week ending December 11 was 54,713 bbls. from 441 wells, the same amount of wells as last week.

The Wofford Drilling Co. and others' No. 1 McGee, NE cor. NW SE, Section 4-7-4, a wildcat in the northwest extension to the St. Louis Pool, was drilled 3 feet deeper and increased its production. The total depth of the well is now 3,875 feet, in the Hunton lime. It produced 1,710 bbls., the best day's production. It made 1,613 bbls. December 13. Magnolia Petroleum Co.'s No. 2 Lynn, SE cor. NE NE, Section 21-7-4, was drilling in Hunton lime at 3,664 feet. It was flowing 60 bbls. daily from the Hunton. Prairie Oil & Gas Co.'s No. 1 Meyers, NW cor. SW SE, Section 32-7-4, was landing 8-inch casing at 3,965 feet, in Woodford shale.

Sasakwa Pool declined about 1,000 bbls. from the previous week's gauges. Carter Oil Co.'s No. 2 Spillman, NW cor. SW SW, Section 7-6-8, swabbed 240 bbls. in 13 hours from a total depth of 4,188 feet. Sinclair Oil & Gas Co.'s No. 6 Davis, NE cor. NW SE, Section 7-6-8, has been completed for 5,000,000 feet of gas at a total depth of 2,855 feet. Sinclair Oil & Gas Co. and Kingwood Oil Co.'s No. 1 Tiger, SE cor. NW, Section 13-6-7, north of the production in the pool, was drilling at 3,130 feet, in the Cromwell sand with a showing of water.

The new wildcat test in McClain County, drilled by the Homaokla Oil Co., in the SE cor. NE NE, Section 16-5-3, has been put on the pump and was making 50 bbls. daily. It is producing from the Viola lime at 3,582-3,601 feet.

Pottawatomie Wildcat

Another wildcat in Pottawatomie County that was showing oil was the Payne Drilling Co. and others' No. 1 Miller, SE cor. NE, Section 22-6-3, the oil was found at 3,502-13 feet, and it was drilling deeper at 3,560 feet, December 13.

Mid-Kansas Oil & Gas Co.'s No. 1 Brandenburg, NE cor., Section 3-7-4, had the Hunton lime at 3,697 feet, and drilling ahead. It is an important test owing to the possibility of extending production in this area both to the south and to the west, in the north extension to the St. Louis Pool.

Prairie Oil & Gas Co.'s No. 1 Bodkins, in Section 26-8-4, St. Louis Pool, was drilling in a cavey formation at 4,095 feet.

Magnolia Petroleum Co.'s No. 1 Jordan, in Section 12-7-4, was drilling in Sylvan shale at 4,065 feet. Same company's No. 1 Cherry, SE cor. SW, Section 13-7-4, was drilling in Viola lime at 4,042 feet.

Two important locations were made in the south end of the East Earlsboro Pool, both being community tests, Amerada Petroleum Corp. and Dixie Oil Co.'s No. 3 Scott, NW cor., Section 30-9-6, and Amerada Petroleum Corp. and Wilcox Oil & Gas Co.'s No. 1 Gates, NE cor., Section 25-9-5.

New Wilcox Sand Pool

The new Wilcox sand pool, in Sections 13 and 14-5-7, Seminole County, on the west side of the Allen Pool, is slowly declining. It made 3,408 bbls. of oil from nine producing wells. The above production was made on December 13. The gauges by companies and leases were as follows:

Company, lease—	Bbls.
Blackwell, No. 1 A. Fleet	725
Blackwell, No. 3 A. Fleet	15
Texas, No. 1 Lewis	525
Barnsdall, No. 1 Lustey	320
Magnolia, No. 1 Reed	725
I. T. I. O., No. 1 Mathis	290
I. T. I. O., No. 2 Mathis	108
Mid-Continent, No. 2 Harjo	690
Mid-Continent, No. 4 Harjo	10
Magnolia, No. 1 Panley	off
Total	3,408

Universal Oil & Gas Co.'s No. 3 Krueger, in Section 25-5-6, north of Ada in Pontotoc County, had 8,000,000 feet of gas from sand at 1,990-94 feet.

Southern Oklahoma

Southern Oklahoma developments are slowing down. Magnolia Petroleum Co.'s No. 17 Fobb, SE cor. NW SW, Section 12-2s-8w, Stephens County, made 65 bbls. of oil from sand at 2,029-52 feet. Same company has made two new locations in the same area, Nos. 9 and 10 P. H. Peck, in Section 13-2s-8w.

Bridwell Oil Co. has announced a location for its No. 1 Spring, NW cor. SW NW, Section 25-6s-6w, Jefferson County. The location is 2 miles west of the dry hole recently completed by the same company. Its No. 1 Seay, SE cor. SW NW, Section 29-6s-6w, Jefferson County, which was abandoned at 2,086 feet. Porter & Monahan's No. 1 Robertson, SE cor. NE, Section 23-3s-4w, Jefferson County, a wildcat 3 miles northwest of the Healdton Field, is fishing for casing at 3,513 feet in shale.

Deep Test in Garvin

Dixie Oil Co., Mid-Continent Petroleum Corp. and Sinclair Oil & Gas Co. have made a location for a community deep test in the NW cor. SW, Section 11-4-1, Garvin County, 7 miles north and 3 miles east of Pauls Valley. It is located south and west of the Homaokla Oil Co.'s new well in McClain County.

Wirt Franklin Petroleum Corp.'s No. 1 Vann, SW cor. NW NW, Section 4-5-9w, a deep test in the Cement Field in Caddo County, has been abandoned. The test was drilled to a total depth of 5,855 feet and then plugged back several times and the shallow sands given a shot.

Magnolia Petroleum Co.'s No. 6 Rowe, SE cor. SW NE, Section 36-6-10, Caddo County, was drilling at 3,970 feet. This test will be drilled to the deep formations.

W. E. McGraw's No. 1 King, C SW NE, Section 11-1-8, Coal County, has been held up four months by a fishing job and still has a bit in the hole. A show of gas was found at the total depth of 1,200 feet.

In the northern part of the State, the wildcat test drilling by the Gypsy Oil Co., its No. 1 Bilderbeck, in Section 27-28-7w, Grant County, was drilling deeper at 4,950 feet, December 14. Another important wildcat in Noble County was Magnolia Petroleum Co.'s No. 1 Young, in Section 22-21-2w, which opened up a new producing horizon at 5,100 feet, is still shut down with the casing cemented. Owners are preparing to make a production test in a few days.

Northwestern Wildcats

The wildcat tests in northwestern Oklahoma were drilling to the deep formation. One was reported to be drilling in the detrital zone. Sinclair Oil & Gas Co.'s No. 1 Stewart, C NE SW Section 33-27-16w, Woods County, was drilling at 5,835 feet, in detrital, finding the top at 5,810 feet. It is the only test to find this formation in this part of the State. Same company's No. 1 Howell, C SW SW Section 14-26-24w, Harper County, was still fishing rotary drill pipe at 6,161 feet. Prairie Oil & Gas Co.'s No. 1 Wilber, NE cor. SE Section 23-23-17w, Woodward County, was drilling at 5,915 feet. Farrand Oil Co. and others' No. 1 fee, SE cor. SW SE Section 2-23-17w, Woodward County, has been abandoned at 1,387 feet. Harris & Haun's No. 1 Wyatt, C SE Section 9-23-20w, Woodward County, was fishing at 4,969 feet. Peerless Oil & Gas Co. and others' No. 1 Crowell, C NW NE Section 14-28-14w, Woods County, was drilling at 1,250 feet. Bu-Vi-Bar Petroleum Corp.'s No. 1 fee, SE cor. SW Section 10-25-15w, Woods County, was drilling at 6,028 feet. It cored a dry sandy lime at 6,015-25 feet.

Greater Seminole Production

The production of the important pools in the Greater Seminole area averaged daily 320,160 bbls. for the week ending December 11. The production shows a decline of better than 6,000 bbls. from the previous week. The daily average gauges for the same week were as follows:

Pool—	Wells	Bbls.
Little River	348	44,060
East Little River	51	24,879
Carr City	58	9,644
Maud	137	8,032
Mission	110	15,611
Bowlegs	295	23,889
Earlsboro	296	36,570
East Earlsboro	78	30,807
Seminole	273	23,817
East Seminole	28	3,897
Searight	85	9,215
Allen	239	23,128
Asher	25	3,706
St. Louis	441	54,713
Sasakwa	32	9,192
Total	2,496	320,160

Seminole Pipe Line Runs

The daily average pipe line runs were about the same as last week. The total runs were 238,985 bbls. Runs by companies for the week ending December 11 were as follows:

Company—	Bbls.
Barnsdall	2,875
Continental	450
Cosden	9,010
Consolidated	715
Champlin	3,395
Empire	3,890
Gulf	39,375
Magnolia	8,600
Oklahoma	43,775
Prairie	36,100
Pure	2,950
Producers & Refiners	1,250
Shaffer	5,150
Shell	6,900
Sinclair	26,870
Texas	16,100
Tidal	19,500
White Oak	1,980
Total	228,885
Tank cars	9,400
Grand total	238,285

Caddo County

Wirt Franklin Petroleum Corp.'s No. 1 Vann, SW cor. NW NW, Section 4-5-9w, has been abandoned at 5,855 feet.

Carter County

Ven Mex Oil Co.'s No. 1 Dixon, SE cor. NW, Section 30-1s-3w, is drilling deeper at 2,875 feet. Magnolia Petroleum Co.'s No. 2 Putman, NE cor. SW, Section 30-1s-3w, has been completed for 162 bbls. in sand, 2,745-68 feet. Porter & Monahan's No. 1 Roberson, SE cor. NW, Section 23-3s-4w, is dry and abandoned at 3,513 feet. C. R. Smith's No. 3 Fee, NW cor. SE NE, Section 27-2s-3w, has been completed for 8,000,000 feet of gas at 4,075 feet.

Comanche County

Floyd Cooper made location for No. 4 Hallum, CNL SE SW, Section 3-3-10w.

Cotton County

Barnsdall Oil Co. has the rig up for No. 17 Bills, NE cor. SW, Section 33-1s-10w. Wirt Franklin Petroleum Corp.'s No. 2 McCombs, SE cor. NE SW, Section 35-1s-10w, is drilling at 1,250 feet. Shasta Oil Co.'s No. 1 Tan-Nah, SW cor. NE, Section 31-1s-9w, is drilling at 1,808 feet. No. 1 Whitehead, SW cor. NE, Section 1-2s-10w, is drilling at 1,680 feet. Silurian Oil Co. and Perkins & Cullum's No. 4 Chambers, NE cor. NW, Section 2-2s-10w, is drilling at 1,600 feet. Razor & Aikens' No. 3 Chambers, SE cor. SW, Section 35-1s-10w, has been completed for 170 bbls. in sand 2,134-69 feet. Shasta Oil Co.'s No. 1 Indian, NW cor. SE, Section 1-2s-10w, made 30 bbls. in sand 2,232-37 feet.

Creek County

H. U. Bartlett's No. 5-B Bartlett, SW cor. NE SW NE, Section 18-9-9, is rigging up. Mannford Development Co. has the rig up for No. 1 M. Barnett, SW cor. SE, Section 11-18-8. H. U. Bartlett and others' No. 1 Jackson, SW cor. SE SW, Section 23-18-8, is rigging up to deepen from 2,694 feet. Shaffer Oil & Refining Co. and others' No. 1-A Unallotted, NE cor. SE, Section 9-17-10, is drilling at 770 feet. A. B. Ice's No. 5 Wanake, NE cor. SE NE SE, Section 19-17-10, is spudding. Mays Drilling Co. is moving the machine in for No. 1-A Brown, NE cor., Section 20-17-10. R. O. Bailey and others' No. 4 Walker, NW cor. SW SW, Section 21-18-9, has been completed for 8 bbls in Bartlesville sand 2,545-2,640 feet. Ted Ray Oil Co.'s No. 1 Smiles, SW cor. NE NE, Section 13-17-10, has been completed for 3,000,000 feet of gas in sand 2,246-60 feet. Reiter-Foster Oil Corp.'s No. 2 Little Head, CSL SW SE,

Section 17-17-10, made 18 bbls. after a shot of 80 quarts in sand 2,109-47 feet. H. C. Wilson's No. 6 Bucktrot, NE cor. NW NW, Section 35-17-10, has been completed for 3,000,000 feet of gas in sand 1,690-1,710 feet.

Grady County

Meridian Gas Co.'s No. 4 Short, CWL NE NW, Section 36-4-8w, is rigging up rotary. No. 5 Short, CW half NW NE, Section 36-4-8w, is drilling at 30 feet.

Jefferson County

O. V. Beck's No. 4 Seay "B," SW cor. NE SW SE, Section 34-6s-5w, has been completed for 35 bbls. in sand 1,202-18 feet.

Kiowa County

Connor & Son's No. 3 Geis, SE cor. SW NE, Section 25-7-16w, is spudding. Bridewell Oil Co.'s No. 2 Foster, NW cor. SE NW, Section 18-6-16w, is cleaning out at 381 feet. John C. Head and others' No. 1 School, CWL NW, Section 22-6-16w, is shut down for casing at 341 feet. Russell & Sloan's No. 1 Weidel, NW cor. SE NE, Section 30-7-16w, has been abandoned at 703 feet.

Logan County

Shell Petroleum Corp.'s No. 2 Storey, NE cor. SE SW, Section 30-19-4w, has been completed for 1,430 bbls. in Wilcox sand 5,953-83 feet.

Marshall County

C. B. Goddard Oil Co.'s No. 2 McComas, SW cor., Section 13-5s-5, made 120 bbls. in sands 561-66 feet and 580-98 feet. Max Westheimer's No. 1 Davidson, NE cor. SW SE NW, Section 30-5s-6, has been completed for 46 bbls. in sand 549-58 feet.

McIntosh County

J. E. Weible's No. 1 Coleman, NE cor., Section 2-11-18, is dry and abandoned at 905 feet.

Muskogee County

Bryan Petroleum Co.'s No. 2 Grayson, CWL SW NW, Section 9-15-15, is rigging up. Smith and others moved a machine in for No. 2 Lewis, NE cor. SE NE, Section 6-13-16. Mazda Oil Co.'s No. 5 C. Jackson, SW cor. NW SE NW, Section 8-13-16, is rigging up. H. D. Johnston and others' No. 2 Smith, NW cor. SE SE, Section 13-13-18, is fishing at 721 feet. Mid-Western Oil & Gas Co.'s No. 2 Parker, C NW SW, Section 31-12-19, is a machcine. C. F. Ray and others' No. 1 Weaver, SE cor. SW SE, Section 15-13-18, made 1,200,000 feet of gas in sand 730-45 feet.

Okfuskee County

Betty Oil Co.'s No. 1-Harjo, NW cor. SE, Section 5-12-11, is a rig. Burr Mack Oil Co.'s No. 1-A Dindy, SE cor. NE NW, Section 31-11-11, is a rig. Minnehoma Oil Co. has the rig up for No. 3 Grayson, NW cor. NE SE, Section 31-11-11. Superior Oil Corp.'s No. 1 Carolina, SE cor., Section 6-11-7, is dry and abandoned at 4,901 feet. Mid-Continent Petroleum Corp.'s No. 2-A Dindy "A," SW cor. NW NE, Section 31-11-11, made 50 bbls. in sand 3,006-10 feet. F. Moore and others' No. 2 Autry, SW cor. NE, Section 12-10-11, has been abandoned at 2,143 feet.

Okmulgee County

Eagle-Picher Lead Co. has the rig on the ground for No. 1-A Morton, SW cor., Section 28-13-12. Kirkland & Son's No. 2-A Gibson, NE cor. SW NE, Section 17-15-13, has been completed for 1,000,000 feet of gas in sand 1,990-2,008 feet. J. E. Wallace's No. 10 Gilbert, CNL SW NE, Section 14-14-14, has been completed for 30 bbls. in sand 1,083-1,102 feet. W. B. Pine's No. 5 Bradford, CEL NW NE, Section 19-14-14, made 4,000,000 feet of gas from sand 2,484-91 feet.

Osage County

Continental Oil Co. and Gypsy Oil Co.'s No. 2, SE cor. NE SW, Section 22-24-7, is a rig moving in. McCune-Wormser and others' No. 13, SW cor. SE SE NW, Section 15-24-8, is rigging up. M. Grace Maxwell's No. 6, NW cor. SE, section 5-24-11, is drilling at 250 feet. L. G. Stanley and others' No. 1, SW cor. NE NE NE, Section 15-26-8, is a rig moving in. Peters Petroleum Corp.'s No. 4, SW cor. NE NW, Section 27-27-11- is drilling at 80 feet. Oklahoma Natural Gas Corp.'s No. 1,744, NE cor. SW SW, Section 5-21-12, has been completed for 67,000 feet of gas. Peters Petroleum Corp.'s No. 6, SW cor. NE SW, Section 32-24-9, is a dry hole at 765 feet. No. 2, NW cor, NE NW, Section 27-27-11, made 75 bbls. from Bartlesville sand 1,635-58 feet.

Pawnee County

Thompson & Black's No. 1 Fleming, SE cor. NE SE, Section 15-20-9, is drilling at 490 feet. Peter Adamson's No. 4-A Parker, NE cor. SW SE, Section 24-21-7, is drilling at 430 feet.

Pittsburg County

Midwestern Oil & Gas Co.'s No. 1 Knoblin, SE cor. SW NE, Section 11-7-18, has been abandoned at 1,961 feet.

Payne County

Mote & Wheeler and others' No. 1 McLaughlin, SE cor. NW NW, Section 7-17-5, is dry and abandoned at 4,212 feet.

Stephens County

Ven Mex Oil Co. and Mid-Continent Oil Co.'s rig is up for No. 3 Medley, NW cor. NE NW NE, Section 2-2s-8w. Magnolia Petroleum Co. has built the rig for No. 9 Peck, SW cor. SE SE NE, Section 13-2s-8w. No. 10 Peck, SE cor. NE SW NE, Section 13-2s-8w, is a location. Wirt Franklin Petroleum Corp. made location for No. 1 First National Bank, NW cor. NE NW, Section 8-2s-6w. Wirt Franklin Petroleum Corp.'s No. 3 Drake "B," NE cor. SW NE, Section 12-1s-4w, made 83 bbls. at 3,286 feet. No. 1 Martin, NE cor. NW SW, Section 9-2s-6w, has been completed for 40,000,000 feet of gas in sand 3,125-38 feet.

Tillman County

Chenault & Staley's No. 1 Crane, NE cor. SE, Section 25-4s-14w, has been abandoned at 2,320 feet.

Tulsa County

Dunnigan and others' No. 1-A Brown, CNL NE NW, Section 28-17-14, is spudding.

Hughes County

McCulloch Oil Co.'s No. 1 Scott, NW cor. SW NE, Section 23-6-8, has been abandoned at 4,610 feet.

Oklahoma County

Wirt Franklin Petroleum Corp. made location for No. 1 Wright, NE cor. NW, Section 2-11-3w, Oklahoma City Field. Indian Territory Illuminating Oil Co. and others made location for No. 1 Clarence Trosper, NW cor. SW NE, Section 14-11-3w. Location has been made for No. 4 Johnson, NW cor. NE NW, Section 25-11-3w. No. 5 Johnson is a location, NE cor. NW NW, Section 25-11-3w. Coline Oil Co. staked location for No. 4 Clauer, SW cor. SE SE, Section 25-11-3w. Indian Territory Illuminating Oil Co. and others made location for No. 3 Speegle, SE cor. SW SW, Section 24-11-3w. Location has been made for No. 2 Williamson-Canfield, SW cor. SE SW, Section 24-11-3w. Location has been staked for No. 2 Mary Sudik, NW cor. SW, Section 31-11-2w. No. 6 Jones, SW cor. NW NW, Section 31-11-2w, is also a location.

Indian Territory Illuminating Oil Co. and others' No. 1 Trosper, C NE SW, Section 13-11-3w, made 5,809 bbls. from 6,570 feet. T. B. Slick's No. 1 Glidden, SW cor. SE, Section 13-11-3w, has been completed for 17,276 bbls. at 6,535 feet. No. 2 Glidden, SE cor. SW SE, Section 13-11-3w, made 2,929 bbls. at 6,662 feet. Indian Territory Illuminating Oil Co. and others' No. 1 Johnson, NE cor. NW, Section 25-11-3w, was completed for 8,355 bbls. at 6,380 feet. Mid-Kansas Oil Co.'s No. 3 Fortson, NW cor. NE, Section 24-11-3w, flowed 17,166 bbls. at 6,554 feet. Indian Territory Illuminating Oil Co.'s No. 1 K. Henning, NE cor. SW SE, Section 24-11-3w, was completed for 5,601 bbls. at 6,630 feet. Sinclair Oil & Gas Co.'s No. 2 Stamper, SW cor. NW, Section 30-11-2w, produced 500 bbls. at 6,420 feet. No. 3 Stamper, SE cor. NW, Section 30-11-2w, was completed for 3,215 bbls. at 6,555 feet.

Pontotoc County

Universal Oil Co.'s No. 1 Martin, NE cor., Section 36-5-6, is rigging up tools. Continental Oil Co.'s No. 1 Newby, SW cor., Section 18-5-5, Bebee Pool, has been completed for 24 bbls. in Viola lime 2,380-2,538 feet. Independent Oil & Gas Co.'s No. 2 Guest, SE cor. NE NW, Section 19-5-5, made 40 bbls. from Viola lime 2,368-2,416 feet. Markham & Pugh's No. 1 Wade, SE cor. NW, Section 1-4-7, was completed for 2½ bbls. on the pump at 2,200 feet.

Pottawatomie County

Sinclair Oil & Gas Co. and others made location for No. 1 Shimer, NW cor., Section 17-9-5, Earlsboro area. Continental Oil Co. and others made location for No. 1 Brandenburg, SE cor., Section 34-8-4. Pure Oil Co. made location for No. 1 Mayes, SE cor. NW, Section 9-8-5, Mission Field. Gypsy Oil Co. staked location for No. 1 Swartz, NW cor. SE NW, Section 2-7-4, North St. Louis Field. The Prairie Oil & Gas Co. made location for No. 1 McGee, SE NW, Section 4-7-4. Magnolia Petroleum Co. made location for No. 1 Disch, NE cor. SE SE, Section 12-7-4. No. 1 D. Lynn, NE cor., Section 21-7-4, is an old well rigging up to deepen.

Superior Oil Corp. and others' No. 1 Bayliss, SW cor. NW, Section 3-8-4, is dry and abandoned at 4,477 feet in Wilcox sand. Keister & Manning's No. 1 Tibbes, NE cor. SW, Section 9-8-4, has been abandoned at 4,715 feet in Wilcox sand. Independent Oil & Gas Co.'s No. 2 Mull, SW cor. SE SW, Section 35-8-4, made 207 bbls. from Hunton lime 3,777 feet, total depth 4,037 feet. Gypsy Oil Co.'s No. 3 Green, NE cor. SE, Section 17-7-4, made 547 bbls. in Simpson sand 4,049-60 feet. Skelly Oil Co.'s No. 2 Decker, SW cor. NW SW, Section 16-7-4, has been completed for 833 bbls. in Simpson sand 4,170-78 feet. Minnehoma Oil Co.'s No. 3 Simms, NE cor. SE, Section 16-7-4, flowed 130 bbls. from Hunton lime, was deepened to Wilcox sand 4,375-4,407 feet and found water. Magnolia Petroleum Co.'s No. 1 Hilton, NW cor., Section 22-7-4, has been completed for 1,542 bbls. in Simpson sand 4,143-62 feet. No. 1 S. Ogle, NW cor. NE SW, Section 22-7-4, has been completed for 10,000,000 feet of gas in Hunton lime 3,657-3,735 feet. Gypsy Oil Co. and others' No. 1 Pandosh, NW cor. NE NE, Section 23-6-4, is dry and abandoned at 4,060 feet. The Prairie Oil & Gas Co. and T. B. Slick's No. 1 Villines, SW cor. SW, Section 20-8-5, has been abandoned at 4,503 feet in Wilcox sand.

Seminole County

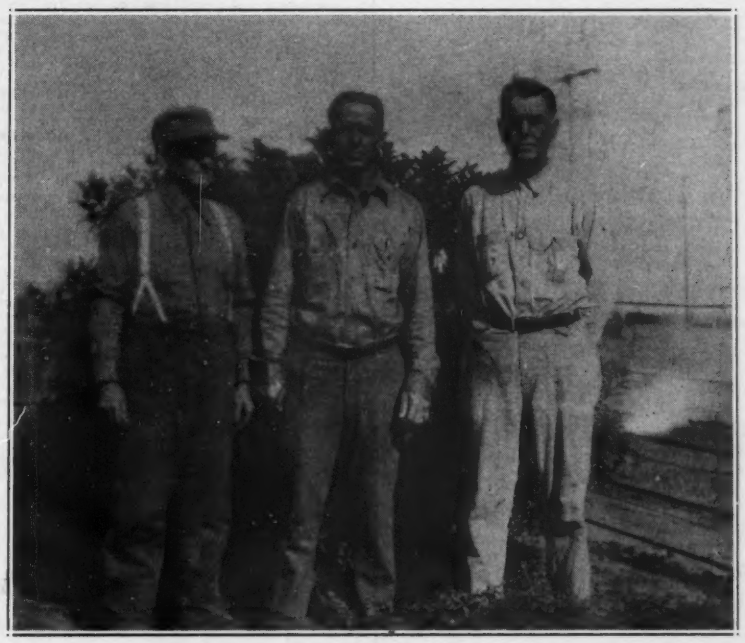
Carter Oil Co.'s No. 3 Chowning, SE cor. NW SW, Section 19-9-6, East Earlsboro Pool, is a rig on the ground. Location has been made for No. 4 Chowning, NE cor. SW SW, Section 19-9-6. The Texas Company has the cellar dug for No. 7 Magruder, SW cor. SE NW, Section 19-9-6. The rig is being built for No. 8 Magruder, SE cor. SW NW, Section 19-9-6. Amerada Petroleum Corp. and Dixie Oil Co.'s No. 2 Scott, NE cor. NW SW, Section 19-9-6, is a rig under construction. No. 4 Ful-

(Continued on Page 152)

SOUR LAKE FIELD MEN WIN PRIZE FOR MAINTAINING NEATEST LEASE

HOUSTON, Tex., Dec. 16.—J. B. Lane, pumper; C. A. Harris, gang pusher, and C. D. Cook, pumper, of "power 8," or the fee lease of The Texas Company at Sour Lake, have been awarded prizes by The Texas Company for having the most efficient and best appearing lease of the company in the Gulf Coast division. The lease was adjudged the winner for 1929 in a contest held annually by the company. The operators and the cost—so the winning lease is not necessarily the most efficient and neatest, but rather the one which is operated and kept up the best with the least outlay or fewest advantages for doing so.

Choosing the winner follows the annual trip of inspection of all the leases by the district superintendents which was made this year about two months ago, when these superintendents, headed by W. V. Bowles, division manager of production; F. C. Sealey, assistant division manager, and Paine Pannill, division superintendent, spent a full week visiting the various fields of the division. In the party this year were the following superintendents: E. A. Barker, Boling; O. W. Beggs, Humble; H. G. Shook, West Columbia; L. E. Bales, Hull; L. T. Tighe, Mexia; F. L. Hugus, Sequin; M. Westbrook, Sour Lake. The votes were not received and compiled until the past week.



J. B. Lane, pumper; C. A. Harris, gang pusher; and C. D. Cook, pumper, on The Texas Company's fee lease at Sour Lake, Hardin County, Texas.

on the lease each were awarded gold watches which were presented at a banquet held for the field men.

The contest, which is held annually in each division of The Texas Company, is unique and has resulted in a great display of rivalry among the field men to improve the efficiency and to beautify their respective leases. Selection of the winning lease takes into consideration many factors—the age of the lease, the natural advantages for keeping it up,

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 72)

The Texas Co.'s No. 3 Noel, 330 ft. N and W. SE cor. NW, Sec. 187, Blk. 3, I.&G.N.R.R. Sur. ..... Drlg. 1,255 ft.
The Texas Co.'s No. 3 Quinn, 330 ft. N, 990 ft. E. SW cor. E½, Sec. 7, Blk. 9, I.&G.N.R.R. Sur. ..... Drlg. 1,135 ft.

CASTRO COUNTY

Colorado O. & R. Co.'s No. 1 M. Siemmons, SW cor., Sec. 73, Blk. M-17, B.S.&F. Sur. ..... Rig blown down.
Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE. Sec. 333, Blk. M-6, S.K.&K. Sur. ..... S.D. 510 ft. for csg

CHILDRESS COUNTY

Continental Oil Co. and Sun Oil Co.'s No. 1 Johnson, 660 ft. from NE of Sec. 580, Blk. H, W.&N.W. Sur. Location.
C. L. Sloane et als No. 1 B. P. Smith, Sur. 49, F. P. Knott lands ..... S.D. 4,675 ft.

COCHRAN COUNTY

Westbrook et als' No. 1 Slaughter, 400 ft. from S and E, Labour 67, League 118, Knox Co. School lands ... Set 8-in. csg. 2,771 ft.

DONLEY COUNTY

Blue Bonnett Oil Co.'s No. 1 Ball, 1,075 ft. from N line, 985 ft. from E line, Sec. 22, Blk. E, D.&P.R.R. Sur. T.D. 3,006 ft; contract depth.
Marine Oil Co.'s No. 1 Sawyer, C SW. Sec. 5, Blk. G, G.C.&S.F. Sur. ..... S.D. 3,540 ft.
Southland Oil Co.'s No. 1 Lewis, C SE 40 ac., Sec. 3, Blk. 29, H.&G.N.R.R. Sur. ..... T.D. 3,005 ft; temp. abd.

GRAY COUNTY

Adams Oil Co.'s No. 4 Morse, 330 ft. S and W, NE cor. Sec. 3, Blk. 26, H.&G.N.R.R. Sur. ..... S.D. 2,495 ft; S.O.
Alexander and Shell Pet. Corp.'s No. 1 Harrah-McKinney, 330 ft. S and W, NE cor. E½ SE. Sec. 163, Blk. 3, I.&G.N.R.R. Sur. ..... S.G. 3,065 ft; T.D. 3,160 ft; 1,000 ft. oil in hole; 5,000,000 ft gas; T.P. 3,135 ft.
British-American Oil Co.'s No. 2 Purviance, 330 ft. N and E, SW cor. E 160 ac., Sec. 61, Blk. B-2, H.&G.N.R.R. Sur. ..... Location.
Camel Oil Co.'s No. 2-B Harrah, 330 f. from N and E, Sec. 150, Blk. 3, I.&G.N.R.R. Sur. ..... Location.
Champlin Ref. and Danciger's No. 3 Cook-Faulkner, 330 ft. S and E, NW cor. W 120 ac. of E 200 ac., Sec. 30, Blk. B-2, H.&G.N.R.R. Sur. ..... T.D. 2,670 ft; running 8¼-in. csg
Clayton-Key Oil Co.'s No. 1 Key, 330 ft. from S and W of E 42 ac. of N 84 ac. of S 168 ac., Sec. 1, B.&B. Sur. ..... T.D. 1,968 ft; cmtd. 8¼-in. csg.
Cons antine et als' No. 1 Crews, 330 ft. S and W, NE cor. SW, Sec. 20, Blk. 30, H.&G.N.R.R. Sur. ... S.G. 2,190 ft; fishing 2,325 ft.
Danciger et als' No. 11 Jackson, 330 ft. S, 1,320 ft. W, NE cor. NW, Sec. 88, Blk. B-2, H.&G.N. Sur. ..... T.D. 2,906 ft.
Danciger O. & R. Co.'s No. 5 Morse, 330 ft. N and E, SW SW NW, Sec. 1, Blk. 26, H.&G.N.R.R. Sur. .. Drlg. 2,470 ft.
Danciger O. & R. Co.'s No. 1 Shaw, 330 ft. from S, 286 ft. from E of E 39½ ac., NW, Sec. 5, Blk. 1, A.C.H.&B. Sur. ..... T.D. 2,588 ft.
Danciger O. & R. Co.'s No. 2 Smith, 330 ft. from S and E, SE, Blk. 3, I.&G.N.R.R. Sur. ..... Rigging up.
Danciger O. & R. Co.'s No. 1 Williams, 330 ft. from N, 330 ft. from E, S½ NW ..... Estimated 15,000,000 ft. gas 2,610-70 ft; S.D. 2,720 ft.
Dunlop's No. 4 Morse, 330 ft. N and E SW cor. SW, Sec. 17, Blk. A-9, H.&G.N.R.R. Sur. ..... T.D. 2,431 ft.
Follett Pet. Corp.'s No. 1 Hood, 330 ft. from S and W of W 80 ac., SW, Sec. 32, Blk. 3, H.&G.N.R.R. Sur. Cellar.
Sines & Reiger's (formerly Eslick et als') No. 1 Mrs. J. A. Hopkins, NW cor. W 80 ac. of SW, Sec. 84 Blk. B-2, H.&T.C. Sur. ..... S.D. 3,206 ft.
Gardner Bros. and Collins' No. 2 Saunders, 955 ft. from S, 330 ft. from E of W 68 ac. E½, J. G. Eustice Sur. Location.
Gulf Prod. Co.'s No. 1 Barrett, 967 f. N and E, SW cor., NE, Sec. 131, Blk. 3, I.&G.N.R.R. Sur. ..... Drlg. 2,418 ft.
Gulf Prod. Co.'s No. 3 Worley-A, 330 ft. N, 1,650 ft. W, SE SW, Sec. 36, Blk. 3, I.&G.N.R.R. Sur. ..... Temp. abd. at 3,163 ft.
Gulf Prod. Co.'s No. 3 Saunders, 330 ft. S, 990 ft. E, NW cor. its 130-ac. lease out of SW cor., Sec. 40, Blk. 3, I.&G.N.R.R. Sur. ..... Drlg. 2,880 f.
Guernsey Oil Co.'s No. 1 Vaniman, 330 ft. N and W, E½ NE, Sec. 175, Blk. 3, I.&G.N.R.R. Sur. ..... Drlg. 1,150 ft.
Haymer O. & G. Co.'s No. 1 Morse, 330 ft. each way out of SE cor. E½ SE, Sec. 45, Blk. A-9, H.&G.N. Sur. ..... Fishing 1,780 ft.
Herrgan Oil Co.'s No. 1 Bradford, 330 ft. from N, 990 ft. from E, Sec. 123, Blk. B-2 ..... First S.G. 2,475-80 ft; 15,000,000 ft. gas 2,515-40 ft.; S.D. 3,140 ft.; S.O. 2,932-50 ft.
Lyon et als' No. 1-A Morse, 330 ft. from S and W, NW NW, Sec. 1, Blk. 26, H.&G.N.R.R. Sur. ..... Rig.
Jean Pet. Co.'s No. 1 Furneaux Bros., 330 ft. from N and W cor. SE, Sec. 200, Blk. B-2, H.T.N. Sur. Location.
Magnolia Pet. Co.'s No. 1 Wright, 330 ft. S and W lines, S½ SW, Sec. 13, Blk. 3, I.&G.N. Sur. ..... 15,000,000 ft. gas 2,707-10 ft; drlg. 2,765 ft.
Oil Operators' No. 1 Bowers, 330 ft. from N, 330 ft. E, Sec. 93, Blk. B-2, H.&G.N. Sur. ..... Show oil and gas 2,400-17 ft; S.D. 3,090 ft; S.O. 3,036-55 ft; first gas 2,483 ft; increased at 2,500 ft., 2,544 ft. and 2,950 ft.
Operators Oil Co.'s No. 1 Lovett, 330 ft. from N and W lines, W½ NE, Sec. 57, Blk. B-2, H.&G.N. Sur. Gas 2,390 ft; S.O. 2,837-47 ft; T.D. 3,061 ft; P.B. 2,880 ft.; shot 280 qts. from 2,830-80 ft; C.O. and swbng. 70 bbls. daily.
Operators Oil Co.'s No. 5 Cook-Faulkner, 990 ft. N, 330 ft. W, SE W 90 ac., Sec. 30, Blk. B-2, H.&G.N. Sur. S.D. 2,748 ft.
Operators Oil Co.'s No. 6 Cook-Faulkner, 330 ft. S and E, NW cor., Sec. 30, Blk. B-2, H.&G.N.R.R. Sur. .... S.G. 2,424 ft. and 2,477 ft; drlg. 2,770 ft; 25,000,000 ft. gas; T.P. 2,748 ft.
Operators Oil Co.'s No. 7 Cook-Faulkner, 330 ft. S, 820 ft. E, NW cor., Sec. 30, Blk. B-2, H.&G.N. Sur. ..... S.G. 2,380 ft; drlg. 2,830 ft; 30,000,000 ft. gas 2,691 ft.
Phillips Pet. Co.'s No. 6 Jackson, 330 ft. from N, 990 ft. from E. line, S½ NE, Sec. 88, Blk. B-2, H.&G.N.R.R. Sur. ..... T.D. 3,030 ft; fishing pipe.
Queen Oil Co.'s No. 1 Lovett, 330 ft. N and W, W½ NE, Sec. 35, Blk. B-2, H.&G.N.R.R. Sur. ..... Spudded and S.D.
Quillian et als' No. 1 Barrett, 330 ft. from N, 330 ft. from E, Sec. 131, Blk. 3, H.&G.N. Sur. ..... 20,000,000 ft. gas 2,660-2,705 ft S.O. 3,100 ft; S.D. 3,350 ft.
Ray et als' No. 1 Noble, 240 ft. from S and 330 ft. from W line, W 80 ac., SW, Sec. 10, Blk. A-6, H.&G.N. Sur. ..... S.G. 2,708 ft; drlg. 2,882 ft.
Rieger & Steckoll's No. 1 Bohr, 330 ft. from S and E, Sec. 37, Blk. B-3, H.&G.N. Sur. ..... Drlg. 2,205 ft.
Robertson & Devore's No. 1 Saunders, 330 ft. from S and W, E½ NW, Sec. 40, Blk. 3, H.&G.N.R.R. Sur. .. Drlg. 600 ft.
Shamrock O. & G. Co.'s No. 3 Saunders, 330 ft. N and E, SW E½ SE, Sec. 4, Blk. 1, A.C.H.&B. Sur. ..... S.D. 2,438 ft.
Shamrock O. & G. Co.'s No. 1 Taylor, 330 ft. each way out of NE cor. NW, Sec. 1, Blk 2, H.&G.N. Sur. .... Drlg. 2,325 f.; S.G. 2,245-85 ft.
St. Clair Oil Co.'s No. 1 Dial, 330 ft. S and W, NE cor. SE, Sec. 10, Blk. 25, H.&G.N.R.R. Sur. ..... Spudded and S.D.
St. Clair Oil Co.'s No. 1 L. S. Stockton, SE cor., Sec. 35, W. R. Lee Sur. ..... Spudded and S.D.
Stogner Meaders' No. 1 Taylor, 330 ft. from S and E, SW, Sec. 7, Blk. H, A. H. Wallace Sur. ..... 1,000,000 ft. gas 2,490-2,535 ft; 2,000,000 ft. gas; T.P. 2,490 ft; S.O. 2,920 ft. and 2,992 ft; T.D. 3,112 ft; fishing.
Stover and Shell's No. 1 Saunders, 990 ft. from N, 330 ft. from E, of N 100 ac., of W 149 ac., Sec. 3, B.&B. Sur. ..... Location.
The Texas Co.'s No. 1 Bell, 2,310 ft. from N, 2,640 ft. from W, Sec. 183, Blk. B-2, H.&G.N.R.R. Sur. ..... Location.
The Texas Co.'s No. 8 Cook-Faulkner, 1,158 ft. N, 1,835 f. W, SE cor., Sec. 29, Blk. B-2, H.&G.N.R.R. Sur. Drlg. 1,840 ft.
The Texas Co.'s No. 15 Saunders, 330 ft. N and W, SE cor. W½ SE. Sec. 4, Blk. 1, A.C.H.&B. Sur. .... S.D. 2,610 ft.
Travis & Rieger's No. 1 Mackie, 330 ft. from N and E, Sec. 114, Blk. B-2, H.&G.N.R.R. Sur. ..... 16,000,000 ft. gas; T.P. 2,685 ft, drlg. 3,040 ft.
Travis et als' No. 1-B Webb, 330 ft. N and W, Sec. 61, Blk. 25, H.&G.N.R.R. Sur. ..... Spudding 100 ft.
Tripplehorn Oil Co.'s No. 1 Morse, 330 ft. from S and W, SW SE, Sec. 17, Blk. A-9, H.&G.N.R.R. Sur. ..... Drlg. 350 ft.
Vulcan O. & G. Co.'s No. 1 Carpenter, 330 ft. from N and W of W 80 ac., NW, Sec. 25, Blk. 25, H.&G.N. R.R. Sur. ..... Rigging up.
White Eagle O. & R. Co.'s No. 3 Faulkner, 1,158 ft. N, 330 ft. E, SW cor. E 80 ac., Sec. 29, Blk. B-2, H. &G.N.R.R. Sur. ..... Drlg. 2,720 ft.
Wright Wilson, Trustee's No. 1 Chapman, 175 ft. from S and E lines, N½ NW, Sec. 69, Blk. 25, H.&G.N. Sur. S.O. 2,685 ft; S.D. 2,693 ft.
Wilcox-Pampa Oil Co.'s No. 10 Combs-Worley, 330 ft. S and W, NE cor. SW SW, Sec. 35, Blk. 3, I.&G. N.R.R. Sur. ..... T.D. 2,813 ft; 32,000,000 ft. gas and 90 bbls. oil first 7 hrs; T.P. 2,811-13 ft.

HARTLEY COUNTY

Dana O. & G. Co.'s No. 1 Fritz, C NE, Sec. 81, Blk. 44, H.&T.C.R.R. Sur. ..... Derrick.

HOCKLEY COUNTY

World Oil Co.'s No. 1 Ellwood, 320 ft. from N and W lines, League 7, Wilbarger County School lands; elevation 3,363 ft; contract depth 5,000 ft. ..... Drlg. 3,910 ft.

HUTCHINSON COUNTY

Alamosa Oil Co.'s No. 4 Sanford, 310 ft. S, 320 ft. W, NE cor. N 160 ac., S 240 ac., Sec. 85, Blk. 46, H.& T.C. Sur. ..... S.O. and wtr. 3,010-11 ft; S.D. 3,095 ft.
Danciger O. & R. Co.'s No. 3 Moore, 330 ft. S and E, NW W½ SE, Sec. 125, Blk. 4, I.&G.N.R.R. Sur. .... Drlg. 2,809 ft.
Huey et als' No. 3 Smith et al, 330 ft. from N, 660 ft. from W, S 40 ac. of E 100 ac., SE, Sec. 12, Blk. Y. Fishing 2,702 ft.
Midwest Explin. Co.'s No. 3 Moore, 330 ft. N, 330 ft. W, SE NE, Sec. 125, Blk. 4, I.&G.N.R.R. Sur. ..... Drlg. 1,525 ft.
Oates & Jones, No. 1 Jasper, 450 ft. S, 330 ft. W, NE 121-ac. tract, Sec. 23, Blk. M-23, T.C.R.R. Sur. .... Drlg. 1,290 ft.
O. B. Penney's No. 2 Johnson Bros., 330 ft. from S line, 330 ft. from W line, W½ NE, Sec. 35, Blk. Y, A.&B. Sur. ..... 31,000,000 ft. gas 1,990 ft; S.D. 3,060 ft; S.O. 3,040-45 ft; I.P. 60 bbls.
Reliance O. & G. Co.'s No. 2 Sanford, 330 ft. S and E, NW W½ of N 80 ac. of S 320 ac., Sec. 83, Blk. 46, H.&T.C. Sur. ..... S.D. 2,720 ft.
Smith & McDaniel's No. 1 Pitcher, 330 ft. from S and E, Sec. 19, Blk. M-21, T.C.R.R. Sur. ..... Drlg. 2,500 ft.
Spurlock et als' No. 1 Christian, 330 ft. from E, 440 ft. from N, SE SE, Sec. 33, Blk. Y, A.&B. Sur. .... Location.
The Texas Co.'s No. 4 J. L. Moore, 330 ft. S and W, NE cor. SW, Sec. 125, Blk. 4, I.&G.N.R.R. Sur. .... Drlg. 1,895 ft.
Travelers Oil Co.'s No. 2 Cockrell, 350 ft. from E and S lines, Sec. 8, Blk. B-3, D.&S.E. Sur. ..... 1,000,000 ft. gas 2,610-2,770 ft; T.D. 3,039 ft; T.P. 3,010-39 ft; shot 120 qts. 3,010-39 ft; averaging 120 bbls. per day.

LAMB COUNTY

Graham O. & G. Co. et als' No. 1 Ellwood, CWL, Sec. 9, Blk. T, T. A. Thompson Sur. ..... Fishing 4,000 ft.

LIPSCOMB COUNTY

Brown et als' No. 1 Box T Ranch, SW NE, Sec. 612, H.&T.C. Sur. ..... T.D. 3,750 ft.
Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... Drlg. 4,860 ft.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles Ranch ..... Small S.O. 1,133-40 ft; fishing 4,167 ft.

MOORE COUNTY

Amarillo Oil Co.'s No. 1 Perkins-A, 330 ft. each way out of NW cor. NE, Sec. 76, Blk. 3 ..... Fishing 3,575 ft.
Canadian River Gas Co.'s No. 1-C Sneed, 660 ft. from N and E, SW, Sec. 46, Blk. 6-T, T.&N.O.R.R. Sur. .. Drlg. 510 ft.
Dana O. & G. Co.'s No. 1 Anthony, C NW, Sec. 260, Blk. 44, H.&T.C.R.R. Sur. ..... S.D. 3,312 ft.
Fritch O. & G. Co.'s No. 1 Lee Bivins, C N 40 ac. of N 160 ac., Sec. 4, Geo. Mahan Sur. ..... 2,000,000 ft. gas 1,550-65 ft; drlg. 2,590 ft.
Red River Gas Co.'s No. 1 J. M. Shelton, 330 ft. each way from SE cor., Sec. 52, Blk. 3, G.&M. Sur. .... Drlg. 2,175 ft.

MOTLEY COUNTY

Explin. Co.'s No. 5 Matador, C. Sec. 45, Blk. J-B, C. B.&C.N.G.R.R. Sur. ..... S.D. 3,915 ft.
Explin. Co.'s No. 6 Matador, 330 ft. from N line, 330 ft. from E line, Sec. 132, Blk. M ..... S.D. 4,011 ft.
Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. ..... S.D. 580 ft.

POTTER COUNTY

Canadian River Gas Co.'s No. 1 Allison "A," 386 ft. from E line, 5,439 ft. from S line, Sec. 1, W. T. Palmer Sur. 11,000,000 ft. gas 2,295-2,375 ft; drlg. 2,610 ft.

RANDALL COUNTY

W. A. Patterson's No. 1 Palo Duro, Sec. 60, Blk. K-14 .. S.D. 1,250 ft.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Ledrick, Sec. 7, Blk. A-5 ..... T.D. 5,992 ft; shot 10 qts. 5,270-93 ft; S.O. 5,288 ft; C.O.

WHEELER COUNTY

Burnett & Hosher's No. 1 Hosher, 330 ft. N and W, SW SE, Sec. 63, Blk. 17, H.&G.N.R.R. Sur. ..... Location.
Dunaway Bros.' No. 1 Worley, 330 ft. S and W, NE cor. NW, Sec. 39, Blk. 24, H.&G.N.R.R. Sur. ..... Location.
Holmes et als' No. 2 Close, 990 ft. N and 400 ft. W, SE SE SE, Sec. 82, Blk. 23, H.&G.N.R.R. Sur. ..... Location.
Lela O. & G. Co.'s No. 1 Williams & Laycock, 330 ft. from S, 209 ft. from W, W½ NW, Sec. 20, Blk. A-8, H.&G.N. Sur. ..... Fishing 1,755 ft.
Lone Star Gas Co.'s No. 1 Simms, C SW NE, Sec. 103, Blk. 23, H.&G.N.R.R. Sur. ..... Drlg. 550 ft.
Martin & Debous' No. 2 Close, C NE NE, Sec. 83, Blk. 23, H.&G.N.R.R. Sur. ..... Drlg. 1,500 ft; first gas 1,500 ft.
Murchison & Fain's No. 1 Cooper, C SW NW, Sec. 80, Blk. 23, H.&G.N.R.R. Sur. ..... Drlg. 1,750 ft.
Prince & Adam's No. 1 Buchanan, C NW NE, Sec. 89, Blk. 17, H.&G.N. Sur. ..... Location.
Upham Gas Co.'s No. 5 Close-Gooch, 30 ft. N, 660 ft. E, SW cor. SW NW, Sec. 81, Blk. 23, H.&G.N.R. R. Sur. ..... Location.
Upham's No. 1 Cuddleback, C SE SE, Sec. 2, Blk. 24, H.&G.N.R.R. Sur. ..... Drlg. 1,915 ft; estimated 15,000,000 ft gas 1,810-1,915 ft.
Vaughn et als' No. 3 Ackley, 330 ft. from N, 330 ft. from W, Sec. 4, Blk. 27, H.&G.N. Sur. ..... T.D. 1,840 ft; 5,000,000 ft. gas 1,660-1,770 ft; junked hole; skidding rig 60 ft. south; drlg. 830 ft.
Wischkamper et als' No. 2 Curry, C NW SE, Sec. 53, Blk. 23, H.&G.N. Sur. ..... Location.
Wischkamper et als' No. 2 Johnson, 200 ft. S and W, NE cor. SE, Sec. 50, Blk. 17, H.&G.N.R.R. Sur. .... Location.

"BJ" ROCK BIT

"a BIT ahead"

(Licensed Under Powell Patents Pending.)

Gear Driven

Self Sharpening

—and the following important and exclusive features are among those which explain why this bit makes many times more hole than any other rock bit yet developed; and at much less cost per foot.

POSITIVE ROTATION OF CONES. NO FLAT CONES: Due to their being driven directly from drill pipe.

NO WORN BUSHINGS: Weight is transferred from drive gear to gearing on cones, *and not through bushings, bearings or shafts.*

NO LUBRICATOR REQUIRED.

NO TWIST-OFFS: Gear ratio from drive gear to cones is approximately 2 to 1, insuring that the greater part of the torque is taken up in the gearing *and not entirely through the drill pipe,* as in other makes.

NO TIME LOST: A ball bearing assembly is enclosed within the body. When gear teeth are worn, the weight is automatically transferred to the ball bearing thrust. Consequent easing up in rotation of drill pipe immediately gives notice that the bit is not drilling, and should be pulled at once eliminating all possibility of wearing out or leaving parts in the hole, a common fault in other makes; and saves much time ordinarily wasted.

STRAIGHTER HOLE — FULL GAUGE: Both cones are positively driven at the same speed. A three point reamer, designed especially for this bit, is driven directly from drill pipe.

NO REAMING: Due to the weight being transferred directly on the cones, their natural tendency is to spread the cones apart, making larger hole and eliminating the necessity of reaming after new cones are installed.

EXTREME SIMPLICITY: By reason of fewer parts.

ADDED SAFETY: All main parts are drop-forged and heat-treated.

Write immediately for complete information and performance records.

The sectional view here shows how the BJ Gear-Driven Rock Bit is radically different in design and construction.

Oil Tool Division of

BYRON JACKSON CO.

2150 East Slauson Ave., Los Angeles, California

Tulsa, Oklahoma City, Houston, Fort Worth, New York City

Quiet Week in Central West Fields

Allendale Field, Illinois, Has 105-Bbl. Producer. Central Ohio Had 16 Completions. Indiana Tests

By Whit
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Dec. 16.—Only one completion was reported from the old Lima Field of northwestern Ohio, that being in the Haskins Field, the Five Points Oil Co.'s No. 8 well, 600 feet from the south line and 1,200 feet from the east line of the M. E. Bruce farm, on the oil map as the M. Hanney, Section 17, Middleton Township, Wood County. Top of the Trenton was found at 1,228 feet and drilled 35 feet into the sand at a total depth of 1,263 feet, the first 24 hours' pumping brought forth but 4 bbls.

While scouts are paying little attention to the old Lima Field, there are chances of extending the old field, excepting to the eastward where the Trenton limestone dips at a rapid rate. Going very far east of the Tiffin Field, chances for finding production are rather slim, but to the north, south and west there are thousands of acres, and the development work is much more economical and drilling easier than in many of the fields. To the north, Putnam, Henry, Defiance and a few other counties have had very few tests, while south of the old production very few tests have been drilled and the supposition is oil will be found as far south as the Ohio River, especially in Adams, Brown and other counties.

CENTRAL OHIO

Only 16 wells were completed in the Central Ohio Field, of which 3 were producers of oil, with an initial of 99 bbls., 5 dry holes and 8 gas wells. Some 18 new locations were staked out and 25 new wells started drilling, a total in new work of 43.

In Ashland County, Lake Township, Robinson and others have a dry hole on the Mathias Kopp farm, Section 16, although a fair gas showing was found in the Berea sand from 688 to 701 feet. Mohican Oil & Gas Co.'s No. 8 B. B. Chesrown farm, Section 3, failed to find any sand from a depth of 570 feet, and goes as a dry hole. John Neadinger and others' No. 1, on the George Horn farm, Section 21, same township, has a showing of oil in the Berea from 619 to 647 feet, but not yet completed. In Mohican Township, the Kemrow Co. made a location for No. 4 George W. Garst farm, Section 16, and in Montgomery Township, the same company is starting tests on the John L. Smith farm, Section 1, and also No. 1 on the J. O. Latter farm, Section 2. In Sullivan Township, the Ohio Fuel Gas Co. has a light gas well in No. 1-4,866, on the Enola Roice farm, Lot 52.

In Medina County, the East Ohio Gas Co. is starting No. 11 on the J. and A. Jelensics farm, Lot 2, Chatham Township.

In Lorain County, Grafton Township, the Ohio Fuel Gas Co. has a dry hole in No. 1-4,884 on the Andrew Bishop farm, Lot 41. This well had a very light showing of gas. In Carlisle Township, the same company has a fairly good gas well in No. 3-4,871 on the Julia Clark farm, Lot 13. Cushing and others are starting a test on the W. M. Richards farm, Lot 12, and the Daugherty Co. is drilling on the William T. McGuire farm, Lot 13.

Wayne County

In Wayne County no completions were reported, although there are 10 wells that should be completed with no bad luck before the close of the year. Barnhart and others are starting a test on the E. and W. White farm, Section 5, Congress Township.

In Holmes County, the East Ohio Gas Co.'s No. 3, on the Christian Schlarb farm, Lot 17, Hardy Township, produced 40 bbls. initial. A sand from 3,490 to 3,501 feet was dry, and the oil being found from 3,535-43 feet. The Preston Oil Co. is drilling No. 5-1,386 on the O. C. Close farm, Lot 4, same township.

In Ashtabula County, Colebrook Township, F. A. Brendall and others are starting a test on the S. and M. Kozman farm, Lot 41.

Knox County failed to report any new wells for the week. The Ohio Fuel Gas Co. is drilling No. 3-4,920 on the B. B. Workman, Lot 38, Brown Township, and made a location for No. 6-4,927 on the Albert J. Richert farm, Lot 25, same township.

In Coshocton County, Pike Township, the Pure Oil Co. is putting in a rig for No. 6 on the F. A. Moore farm, Section 25, and Hulse & Kundtz are drilling a second test on the Frank G. Allen farm, in Newcastle Township.

In Summitt County, Franklin Township, the East Ohio Gas Co. is drilling on the N. C. Slater farm, Section 25. Pfeifer and others are drilling on the William and Clem Kepler farm, Section 13, and the Rickeville Oil Gas Co. is drilling on the R. M. McCaughy farm, same section and township. In Greene Township, Arthur Reeves is drilling on the Alice Wise farm, Section 25. F. A. Brendall and others are starting a test on the Shook and Wagoner farm, Section 19. G. W. Crouse is drilling No. 6 on the G. W. Crouse farm, Section 18, and set a stake for No. 6, same farm. Harmon and George made a location on the A. and V. Vansickle farm, Section 5, Greene Township.

In Licking County, Perry Township, the Whitehill Oil & Gas Co. has a light gas well in No. 3 on the Ira T. Rine farm, Section 2, in the Berea from 641 to 651 feet. The Pure Oil Co. is starting No. 6 on the John Hovver farm, Section 1. Whitehill Oil & Gas Co. is drilling No. 4 on the Ira T. Rine farm, Section 23, Fallsburg Township. In Hanover Township, the Everett Gas Co. made a location on the Criswell-Fenner farm, Section 13, and the Hope Construction & Refining Co. made a location on the A. S. and J. Settles farm, same section. The Pure Oil Co. is drilling Nos. 3 and 4 on the Homer C. Priest farm, Section 7, same township.

Muskingum County

In Muskingum County, the Pure Oil Co.'s No. 3 Lloyd McKee farm, Section 5, Jackson Township, is reported 14 bbls. initial from 3,079-3,122 feet, and the company made a location for No. 4 same farm, as well as for No. 2 on the Jasper Ashcraft farm, Section 4. In Clay Township, McIntyre & Guthrie are working on the Mrs. M. Young farm, Section 3. Craig, Adair others are also drilling on the Chester Cannon farm, in Section 3. Wittmer Properties, trustee, is drilling three tests in Perry Township, No. 1 Irvin Nelson, in the third quarter section; No. 1, on the I. B. Baker farm, Lot 11, and No. 1 Thomas Treahey & Co., land, Section 7. In Union Township, the Atha Co. is drilling on the George Sherman farm, Section 16, and the Penn Ohio Oil Co. is drilling on the J. C. Wilson and others farm, Section 12. Perry Sturm and others are shut down at 3,350 feet on the George N. Wilson farm, Lot 321, in Newton Township.

In Athens County, Lodi Township, the Fairfield Oil & Gas Co. is drilling deeper No. 2 R. E. Wilson farm, Section 34, in hopes of finding a pay below the Berea sand which had a light showing of gas from 1,615-34 feet. Ohio Fuel Gas Co. got a dry hole in the upper Berea sand from 1,155-65 feet in No. 1 R. L. Clutter farm, Section 1, Waterloo Township, same county. Coleville Oil & Gas Co. is drilling on the L. R. Burrows farm, Section 31, Rome Township.

In Meigs County, Bedford Township, a fair gas well was drilled by the Ohio Fuel Gas Co. in No. 1-4,881 on the John Chaney farm, Section 21, in the Maxon sand from 982-1,009 feet. Cochran and others are fishing at 1,450 feet in No. 2 Roy C. Sansbury farm, Section 29, Salisbury Township. Ohio Fuel Gas Co. found a light gas well in No. 1-4,940 on the J. F. and Bessie Lee farm, Section 13, Scipo Township, and H. McTaggert and others got a fair gas well in No. 5 F. C. Halliday farm, same section, in the Maxon sand from 810-62 feet. In Sutton Township, the Southern Ohio Petroleum Co. is drilling on the Harry Potts farm, Section 36. Hazlett and others are drilling No. 4 Bell Spencer, Section 11, and Tyree and others are drilling No. 14 on the William Carnahan farm, same section, also No. 5 on the William Lott, Section 24, same township.

Jackson County

In Jackson County, Lick Township, the Penn Oil & Gas Co. has a light gas well in No. 3 on the Charles Swan farm, Lot 67, in the Clinton lime from 2,615-20 feet.

In Vinton County, Swan Township, the Ohio Fuel Gas Co.'s No. 1-4,848, on the Ellen McQuade farm, Section 35, is a dry hole. This well struck the Clinton from 2,897-2,916 feet, found top of Medina at 2,967 and went to a total depth of 2,971 feet.

In Tuscarawas County, Washington Township, the Capitol Drilling Co. is drilling on the C. R. and M. A. Paulson farm, Sections 32 and 33.

In Stark County, the Clinton Oil & Gas Co. is starting a test on the Nancy C. Smith farm, Section 3, Lawrence Township.

East Ohio Gas Co. found a small gas well in a wildcat on the Cleveland Worsted Mitts Co. land, Lot 45, Brumfield Township, Portage County, at a total depth of 4,323 feet, which is the Clinton. The Pink Clinton lime was found dry from 4,274-76 feet and the formation badly broken.

In Fairfield County, Joseph Crawford is starting a test on the Owen and Sarah Smith farm, Section 16, Richland Township.

In Guernsey County, Wheeling Township, the Alloway Oil & Gas Co.'s No. 6 J. O. Alloway farm, Section 10, is reported good for 45 bbls. initial. In this well the top of the Niagara lime was found at 3,245 feet, and the Lime sand at from 3,417-21 feet. East Ohio Gas Co. is drilling No. 7, Charles and Amanda Gray farm, Section 11, and the North Salem Oil & Gas Co. made a location on the John A. Baird farm, same section.

In Morgan County, Marion Township, the Ohio Fuel Gas Co. has a good gas well in No. 2-4,827 on the Frank Hart farm, fractional Section 34, in the lower Berea sand from 1,653-67 feet, total depth 1,681 feet. The Kemrow Co. has an average gas well in No. 10 on the Edmond Parker farm, Lot 4, in the Salt sand from 684-731 feet. Bowman Oil & Gas Co. has an average gas producer in No. 3 Alex Mingus farm, Lot 32, in the lower Berea sand from 1,625-44 feet, total depth 1,650 feet. Williams Brothers struck a duster in No. 7 on the Curtis M. Ellis farm, Lot 4, in the Maxon sand from 821-47 feet; total depth 854 feet. Same parties are drilling No. 5 Arthur T. Smith farm, Lot 12, Marion Township. In Penn Township, the Ohio Fuel Gas Co. made a location on the A. W. Embree farm, Section 16, and is drilling No. 1-4,900 on the Lawrence T. Parson farm, Section 3. The Pure Oil Co. is drilling on the Jacob Fisher farm, Section 20, York Township, same county.

INDIANA

In the Indiana fields there is being but two completions announced. In the old Trenton Rock area in the northeastern part of the State, George S. Lacknett's No. 4, on the Otto Baker farm, Section 3, Jefferson Township, Adams County, pumped an initial of 15 bbls. from the Trenton lime. The other was Randall & Sharp's No. 3 on the Leo Strassell, Section 3, Ohio Township, Spencer County, in the southern part of the State.

A. R. Hooten abandoned Nos. 1 and 5 on the J. T. Carruthers, Section 30, Turman Township, Sullivan County. Big Four Oil & Gas Co. abandoned No. 1 on the J. Jones farm, NE, Section 19, Washington Township, Gibson County.

Indiana Oil and Gas News

Compiled by Paul F. Simpson, state gas supervisor, Department of Conservation, Division of Geology, Indianapolis, Ind., by counties:

Adams County—George Lacknett got a 15-bbl. well in No. 4 Otto Baker, in Section 3, Jefferson Township. The well drilled by Rosenthal & Fike on the Bollenbacher heirs' farm in Section 34, Blue Creek Township, made an initial production of 10 bbls.

Daviess County — Reicher and others drilled a dry hole at 1,150 feet on the National City Bank farm, in Section 16, Veale Township.

Gibson County — Property owned by the Gem Oil Co. was recently taken over by the United Oil Corp. Shell Petroleum Corp. got a very good producer in its second well on the George Allen lease east of Francisco in Columbia Township. It tested 9,656,000 feet of gas from 1,434-41 feet. A showing of oil was reported in No. 3 well on the same farm. The test drilled by the Gem Oil Co. on the Eliza Harper lease in Section 8, Barton Township, was dry at 1,408 feet. The Indiana Oil & Gas Corp. abandoned its well on the Wesley Ice farm, in Washington Township. The Big Four Oil Co. plugged its well on the John Jones farm, same township. The Indiana Oil & Gas Corp. is still drilling in No. 2 Mitchell, in Section 33, Center Township. It got a good gas showing from 1,690-99 feet in No. 2 William Volkman in the adjoining Section 32, and is drilling a third well. The Big Four Oil & Gas Co. plugged off the oil sand in No. 1 Charles White, in Section 18, Washington Township, and now have a good gas well.

Knox County—Many leases have been taken in this county recently by Texana Oil Co., Shell Petroleum Corp., and the Indiana Oil & Gas Co.

La Grange County — Drilling on the Clair Shoup farm has been suspended temporarily but will be resumed by the LaGrange Oil & Gas Co.

Jasper County—The test drilled by the Mich-Ohio Oil Co., 5½ miles west of Francisville, was completed in the Trenton, where it struck water. However, a good showing had been struck at 642 feet, the well was plugged back to this point. It may not be shot until other tests are drilled in the vicinity. The

(Continued on Page 92)

The Operators' Santa Claus

Merry Christmas!

...and may your affairs throughout the coming year run as smoothly as a Clark engine.

Clark Bros. Co. OLEAN, N.Y. Compressors and Gas Engines

MEN KNOWN IN OILDOM

Everett R. Filley

Everett R. Filley, manager of the Kansas-Oklahoma-Kentucky producing division of The Texas Company, is one of the men who have grown up with that organization. He was born in Nebraska and the family moved to Oklahoma when Everett was too young to have any recollection of the trip. His father engaged in the oil business in Okmulgee and the boy's early years were passed among the drilling rigs. While attending the public school and high school, Everett spent part of each summer vacation at work in the fields.

After completing a course in Baker College, Baldwin, Kans., the young man entered the University of Kansas. Upon leaving the university he went to Tulsa and got a job with the Producers Oil Company, which later became The Texas Company. Here he had opportunity to try his hand at many tasks. He worked as a roustabout, then in the production office figuring run tickets, and later in the office of the land department. In 1919 he was promoted to office assistant to the division manager.

The division advanced rapidly with the development of Oklahoma properties and Mr. Filley kept abreast of the company's operations. In 1926 he was advanced to production superintendent for the division. In January, 1929, he became assistant division manager and then in April assumed the position he now holds.

PERSONAL PARAGRAPHS

L. R. McCollum has returned to London from Rumania.

* * *

James Davis, of Wichita, operating in the Kansas fields, was a visitor to Tulsa last week.

* * *

Ralph Duvall was in Casper, Wyo., en route from Calgary, Alberta, to the oil fields in Texas.

* * *

Fred J. Cameron, who has been in Ontario for some weeks past, has returned to Turner Valley, Alberta.

* * *

Mylon C. Jacobs, Mid-Continent representative of the Walworth Valve Company, spent the week in the Kansas fields.

* * *

James Nagle, of the Skelly Oil Company, has returned to his Tulsa headquarters after an extended trip through the East.

* * *

B. R. Jackson, of the staff of the Anglo-Persian Oil Company, Ltd., has been visiting New York and will probably be stationed there after the first of the year.

N. C. Bingman, of The Texas Company in Casper, Wyo., was called to Malta, Ohio, recently by the death of his mother.

* * *

E. C. (Chris) Christensen, geologist with the Mexican Sinclair Petroleum Company, is spending a month's vacation in Nebraska.

* * *

E. A. Satchell, general superintendent, Lago Petroleum Corporation, is in New York. After a brief stay he will proceed to Maracaibo.

* * *

Bernard H. Lasky, petroleum engineer and geologist, has returned to his offices in Tulsa from a two months' business trip to California.

* * *

Sid Roberts, Transcontinental Oil Company scout, has returned to Tampico, Mexico, after spending a month's vacation touring the midwestern states.

* * *

O. R. Seagraves, Houston, Tex., president of the United Gas Company, and N. W. Hunter, assistant to the president, are in New York City on business.

* * *

E. E. Masters, of Muskogee, Okla., general superintendent of the Oklahoma Pipe Line Company, has been spending a few days in Tulsa on business.

* * *

J. A. Johnson, general manager of the Sweetwater Oil & Refining Company, Sweetwater, Tex., has recently returned from a trip to Tulsa and Fort Worth.

* * *

Andrew Milek, chief geologist for the Mexican Sinclair Petroleum Company, in Tampico, Mexico, is in New York conferring with officials of the Sinclair corporation.

* * *

H. F. Miller, of Tulsa, in charge of refined sales of the Standard Oil Company of New Jersey, has been called to New York City on account of the serious illness of his mother.

* * *

D. P. Hamilton, president of Root Refineries, Inc., of Shreveport, La., is in Europe combining a pleasure trip with a little investigation as to foreign markets for his company.

* * *

Alexander McClintock for The Texas Company at Cody, Wyo., has been transferred to Port Arthur, Tex., and his position has been taken by E. A. Zoble, until recently of Casper.

* * *

W. E. N. Phillips, secretary of Kettle Creek Refining Company, at El Dorado, Ark., has recovered from a recent illness and operation at San Angelo, Tex., and has returned to Arkansas.

* * *

Ralph Bishop, who handles the sales end of the Crystal Oil Refining Corporation business at Shreveport, La., has returned from a duck and goose hunt in the coastal marshes of Louisiana.

* * *

Mr. and Mrs. W. C. McCann, formerly of Laramie, Wyo., are now in Tampico, Mexico, where Mr. McCann is employed as chief clerk of the geological department of the Huasteca Petroleum Company.

* * *

Travis L. Golay, independent oil operator with headquarters in Dallas, Tex., was transacting business in Denver, Colo., recently. Mr. Golay was formerly president of the Marland Oil Company of Colorado.

* * *

Paul Hinyard, scout for the Shell Petroleum Corporation, has been transferred from Houston to San Angelo, Tex., in exchange of places with Joe Simmons, who goes to the Houston territory from San Angelo.

* * *

Paul P. Daniel, factory representative and general sales distributor of the Robinson Orifice Fitting Company, Los Angeles, Calif., has been spending some time in Houston, Tex., where, it is likely, he will establish sales headquarters for his company. Mr. Daniel, until recently was with the Paa American Petroleum Company of California.

* * *

W. S. Morris has resigned from the United States Bureau of Mines, Petroleum Experiment Station at Bartlesville, Okla., to enter the employ of the Indian Territory Illuminating Oil Company at Bartlesville. Mr. Morris had been with the Bureau of Mines since 1926, prior to which time he was connected with the Empire Gas & Fuel Company.

J. E. Rouse, superintendent of plant No. 3, Standard Oil Company of Indiana at Casper, Wyo., is in the East on business.

* * *

George Nostrum, of the Midwest Refining Company at Casper, Wyo., has returned from a trip to the East where he was called by the illness and death of a relative.

* * *

Ray M. Hudson, assistant director of the Bureau of Standards, has resigned to become effective at the end of the current year. Mr. Hudson will become secretary of the Massachusetts division of the New England Council.

* * *

Ing. Ricardo Monges Lopez, of Mexico City, Mexico, formerly chief engineer of the Cia Petrolera de Agwi of Mexico, and now operating independently, has been spending some time in Houston, Tex., and in the Gulf Coast Field making a study of geophysics.

* * *

H. A. Russell, in the geological department of the Delmar Oil Company, has been transferred from Midland, Tex., to San Angelo, succeeding Charles W. Lane, who has gone to Oklahoma City with the Indian Territory Illuminating Oil Company, the parent company.

* * *

J. J. Delany, sales representative of Westcott & Greis, Inc., has come to Houston, Tex., where he will make headquarters for the company in the Gulf Coast territory. Mr. Delany, before going with Westcott & Greis, Inc., was with the General Petroleum Corporation at Los Angeles, Calif.

* * *

Carlos Rodriguez, vice president of the Fiske Refining Company, grease manufacturers, came from Buenos Aires, Argentine, to attend the meeting of the American Petroleum Institute in Chicago last week. Mr. Rodriguez has been active in marketing petroleum products for several years.

* * *

Fred H. Loveday, scout for the Michigan conservation department in the Muskegon oil field since June, 1929, has been transferred to the Mount Pleasant Field. He will work under Frank Anderson, who assumed charge of the Mount Pleasant Field this week succeeding O. H. White, resigned. William L. Daoust will remain in charge of the Muskegon Field office and will be assisted by C. Harold Riggs.

* * *

Nobert Gella, representative of Piepmeyer & Company, of Kassel, Germany, which operates geophysical crews in Germany, Australia, Sumatra and other countries, is in West Texas conferring with company geologists as to the possibility of using a new geophysical device which was invented by Gella shortly after the war, the idea coming from the trenches, an outgrowth of the trench telephone. If the device is deemed suitable for West Texas exploration an office will be opened at San Angelo and several crews stationed there to carry on instrument work in the surrounding territory.

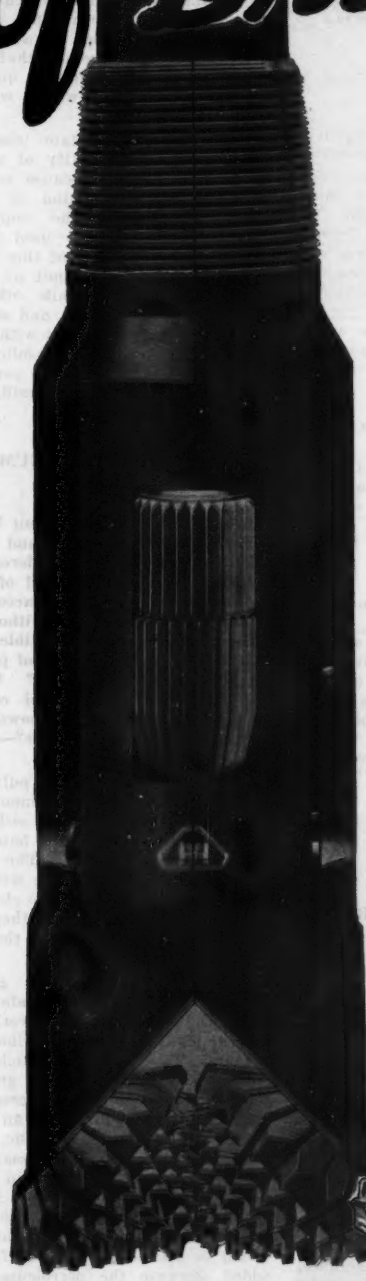
* * *

Frank L. Chase, president of the Community Natural Gas Company and second vice president and operating manager of the Lone Star Gas Company, was elected president of the North Texas Technology Club at the annual meeting in Dallas. Mr. Chase is a graduate of the Massachusetts Institute of Technology. Upon leaving college he entered the employ of the New York Central Railroad as an engineer, but for 35 years he has been connected with the gas industry. While with the gas companies in the Miami Valley of Ohio he served as president of the pipe line company and also as president of the distributing company.

* * *

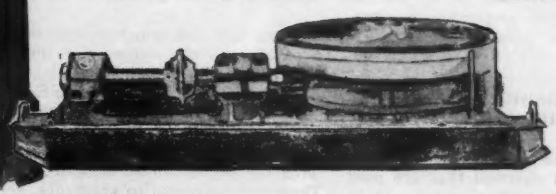
D. A. Hulcy, formerly assistant comptroller of the Lone Star Gas Company, has been appointed assistant to L. B. Denning, president of the company. C. P. Read, traveling auditor, has been made assistant comptroller, succeeding Mr. Hulcy. January, 1920, he entered the employ of the Lone Star Gas Company working under H. G. Cornatzar in the accounting department. Prior to his appointment as chief clerk of the accounting department in January, 1924, Mr. Hulcy held down every job in the department through distribution to head of the producing department. January 1, 1928 he was made assistant comptroller and held that position until his recent appointment.

Almost as Necessary to the Rotary Method of Drilling as the "Rotary"



HUGHES ROCK BITS and CONES

Sold BY SUPPLY STORES Everywhere



The Rotary Method of Drilling is now being used in oil fields throughout the world.

Hughes Rock Bits and Cones have played an important part in broadening the scope and economies of the Rotary through their fast and safe drilling of all hard and semi-hard formations.

HUGHES TOOL COMPANY

Service Plants
Los Angeles, Calif.
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Export Office
Woolworth Bldg.
New York City

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

CORROSIVE ACTION OF STILL GAS

We have used ammonia to control the corrosive action of the gas formed in the stills but this does not correct the trouble. Could you give me some idea of what other corrosive material, in addition to acid, may be present in still gas and what methods are known for correcting this corrosion in towers, condensers, etc.?—C. S. D.

The difficulty with the use of any substance to inhibit corrosion in distilling equipment is that the quantities of the neutralizing agent usually required are so large that perfect control becomes impracticable and too expensive. Partial neutralization, as with ammonia, is the common practice. Some crudes and distillates may be pretreated to advantage and this is usually done by washing with water and some alkaline substance, such as soda ash, lime, and caustic soda. The use of such substances in this manner is not feasible except under special conditions and when the quantities of oil to be treated are not very large.

Electric currents; various salts including the chlorides and sulphates of sodium, magnesium, and calcium; hydrogen sulphide and other sulphur compounds, are the main sources of corrosion met with in stills and condensing apparatus. Certain forms of cast iron, especially the gray cast iron, corrode more rapidly than others. Most of the compounds of sulphur will produce free sulphur under favorable conditions and is thought to be the cause of most of the corrosion. Sulphur melts at approximately 250° F. and burns when heated to about 490° F. in the presence of oxygen or air. This comparatively low melting point causes the sulphur to be deposited in the cooler parts of the system, also to be quite generally distributed during the cooling stage when the unit is shut down. Deposits of sulphur are often found in the vapor lines, towers, expansion chambers, condensing system and tanks.

The chlorides are responsible for the production of hydrochloric acid and when oils containing sulphur are heated in the presence of moisture or steam some sulphuric acid is formed. The action of these acids is of course corrosive.

Probably more corrosion is caused by electrolytic currents than is commonly supposed. This is frequently detected where two different metals are in contact and, while not so easy to determine, is known when similar metals of different composition are brought together as in gaskets, tubes, plates, shells and connections.

The remedies and methods of control involve the use of material of proper chemical composition, such as cast iron of low graphitic carbon content, pretreatment and the introduction of alkaline material during the distilling stage; and the use of less steam in the still have been suggested. The alkaline materials which appear to be used more than others are ammonia and lime.

LOSS OF OIL IN STORAGE

What is considered to be a reasonable figure for estimating the loss of crude oil while in storage and during the refining process?—C. D. A.

The handling and evaporation losses vary with the character of the crude oil, the kind of storage and the color of the tanks. The higher gravity oil will show a larger loss than the heavier oils. Most of the storage tanks are of steel construction to contain 35,000 bbls. and more, probably the 55,000-bbl. tank would represent a fair average for size. The tanks which are painted black will generally show a greater loss than those which are painted white.

While very few reports of losses of crude oil by evaporation have been made of the different grades of oil to warrant very exact estimates, it is thought if complete data were available the average losses would approach 4 per cent in the field; gathering and pipe lines about 3 per cent; and possibly 1 to 2 per cent in refinery storage, and an additional 1.5 to 3 per cent refining loss.

Tanks, of the sizes mentioned, which are painted black lose about 1 per cent a month in the Mid-Continent district. The loss from white tanks may be estimated to be 2.5 per cent less than when good oil is stored in black tanks.

CYMOGENE

What is cymogene? I have found this mentioned in several books but have not been able to locate an analysis or other exact description of it. Any information will be appreciated.—G. R. M.

Cymogene is mentioned in many of the early books which describe petroleum products and is frequently found today in the foreign literature, when reference is made to the first, or most volatile, fraction distilling from a high quality crude oil. It is very light in weight and exceedingly volatile. The product when obtained direct from the crude oil may vary in gravity from about 90 to 110 A.P.I.

The boiling point may be as low as 32° F. The general properties of cymogene indicate that it is practically pure butane.

CHARCOAL ADSORPTION VALUE FOR GAS

Can you give me a list of the different kinds of activated charcoal that are used for absorbing gas, such as are used in gas masks, and how they compare in value together with the method for determining the absorbing value?—L. E. H.

Information concerning the value and use of activated charcoal may be found in the standard books on gas and gasoline extraction from natural gas. There is an extended discussion of the subject in The Recovery of Volatile Solvents, by Robinson, and the material on page 49 is from the sources indicated.

The following are taken from an article on Gas Mask Absorbents by Lamb, Wilson and Cheney, J. Ind. Eng. Chem., 11 (1919), page 420.

TESTS ON ACTIVATED CHARCOAL

Source of charcoal—	Time of activation with steam at 900° C.	Weight absorbed per-centage	Time in minutes
Sycamore	18 min.	41	7.3
Cedar	60	78	16.0
Mountain mahogany	60	32	16.3
Ironwood	60	31	20.8
Brazil nut	120	46	32.2
Ivory nut	120	48	47.0
Colume nut	120	51	53.4
Babassic nut	210	85	58.7
Cocoanut	120	61	58.7
Cocoanut	180	72	64.4
Briquetted sawdust	120	53	40.0
Briquetted carbon black ..	240	53	50.5
Briquetted bituminous coal	165	58.3	46.8
Briquetted anthracite coal.	480	53	40.7

These tests were made by passing dry air containing 7,500 parts per 1,000,000 of chlorpicrin [$C(NO_2)Cl_3$] at the rate of 1,000 cc. per minute through a tube containing the charcoal. The time recorded was the number of minutes before chlorpicrin appeared at the exit end in concentration greater than 1 per cent of the entering concentration, that is, 75 parts per 1,000,000.

Another set of tests given in the same article indicate the adsorptive values of different dry charcoals against various gases.

Conditions of Tests

Vapor concentration equals 0.1 per cent.

Mesh of absorbent equals 8 to 14.

Depth of absorbent equals 10 cm.

Rate of flow per sq. cm. per minute equals 500 cc.

Relative humidity of air equals 50 per cent.

Temperature equals 20° C.

Times corrected to 99 per cent efficiency of absorption.

Further tests on the rate of adsorption of gases by charcoal are given by Harned, J. Am. Chem. Soc., 42 (1920), page 372. These tests show the effect of the method of preparation of the charcoal on the adsorption rate.

Material—	Minutes Chlorpicrin	Minutes Phosgene
Poor U.S.A. cocoanut	120	175
Medium U.S.A. cocoanut..	350	260
Good U.S.A. cocoanut ...	620	310
Wood charcoal, French ..	25	75
Wood charcoal, British ..	70	90
Peach stone	190	135
Treated wood, German ..	230	105

ORIGIN OF AND LIMITS FOR GUM IN GASOLINE

What is considered to be the cause for the formation of gum in gasoline? Is straightrun gasoline free from gum and does all gum come from cracked gasoline? What are the limits which may be permitted in a good gasoline?—E. W. F.

There are not many references in the literature to the causes for the formation of gum in gasoline but the work of Brooks, which has been confirmed by others, as described in Ind. and Eng. Chem. Vol. 18, page 1,198, 1926, suggests that the gum forming bodies start with the formation of organic peroxides. These are converted to aldehydes, ketones, water, carbon dioxide, and organic acids. When the gum is in the fluid form it consists mostly of organic peroxides, fluid aldehydes and ketones. The fully formed hard resin is resin acids, and not aldehyde condensation products. "Small portions of easily oxidizable hydrocarbons, such as diolefins, promote the formation of large proportions of gum. Oxidation of ordinary olefins with gum formation also occurs but at a very much slower rate."

There are very few straightrun gasolines which are entirely free from gum. As has been indicated the production of gum must result from certain foundation substances and when these are present in the crude oil, or in the distillate, the gum will appear in the finished product under favorable conditions. There are some crude oils which contain large quantities of gum-forming substances but in many instances the compounds which have a tendency to form gum are produced by heat and pressure. In a general way the statement that straightrun gasolines usually contain less gum-forming bodies than cracked gasoline may be true; however, there is very little gasoline on the market now which does not contain any cracked gasoline. It is the problem of the refiner to so treat and purify the cracked product that the gum content will be reduced to a quantity in the finished gasoline which will be of no consequence.

It is difficult to state what should be a permissible quantity of gum in a commercial gasoline because no method for determining this kind of gum has been standardized. The copper dish method is more widely used than any other and on the basis of this test some refiners have set the limit at 50 milligrams per 100 cc., while others have adopted 30, some use 20, and still others work for 10 mgs. This is without reference to certain special gasolines which by specification shall not be permitted to contain more than a few milligrams of gum.

POWDERED PETROLEUM COKE FOR FUEL

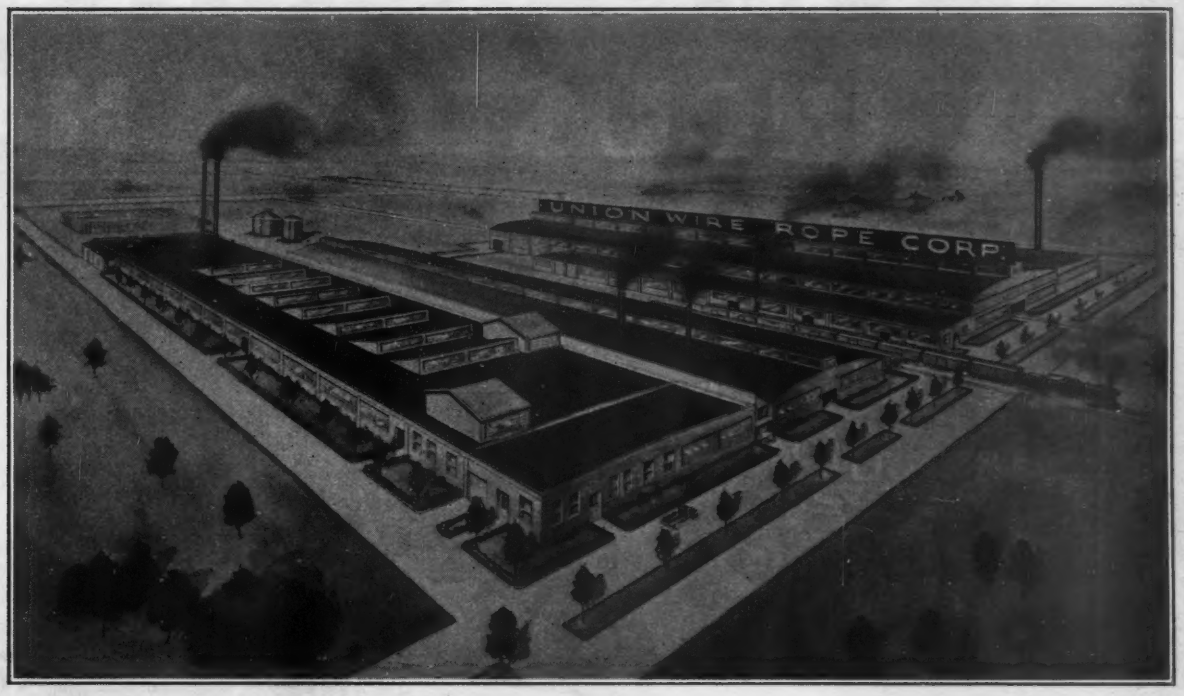
In regard to your statement in the November 7 issue of The Oil and Gas Journal about the use of powdered coke as a fuel—what is the method of pulverizing and how is injection accomplished? Is powdered coke burned without mixing with coal or other combustibles? Name and location of the number of plants having successful installations? Companies manufacturing the required equipment? Is it possible to use coal powdering and burning equipment for coke?—T. S. W.

Petroleum coke may be pulverized by the type of machinery commonly used for powdering coal; this is either in ball mills or those of the swing hammer type, the latter being preferred. The pulverized coke is injected by blowing with air and an important adjunct is the classifier for the rejection of lumps or other particles not suitable for passing through the burner.

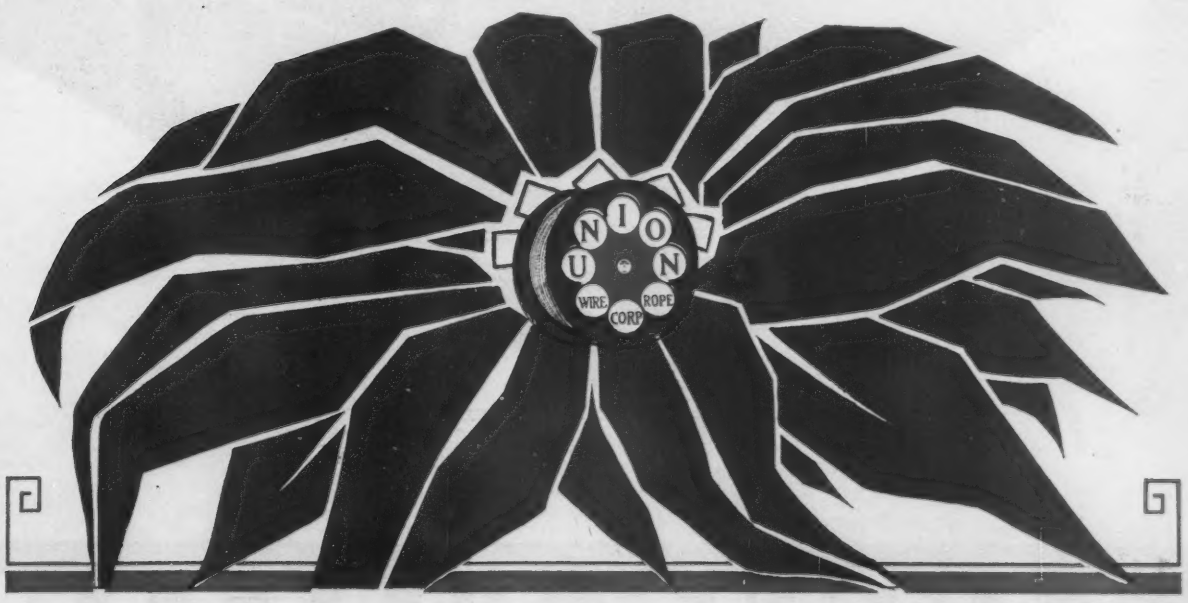
The unit pulverizer has given very good results, much more satisfactory than when the material is pulverized in a general plant and then distributed to the burners. The finer the particles the better the coke will burn; the greater part should pass a 200 mesh screen and in this condition will give an excellent flame with a high heat value, also very little ash. It is not necessary to mix coal with coke for burning in this form, in fact, the addition of coal is not advisable chiefly because of the difficulty in obtaining a uniform mixture. There would be also some dilution if coal were added, because the petroleum coke has a heating value of about 15,000 B.t.u. per pound and average coal is much less than that.

The pulverizing of coke may be accomplished with the ordinary coal pulverizing equipment, the only difference is that some means must be provided for the rejection of coarse and unsuitable material. The same type of burner may be used.

The desired names will be forwarded by mail.

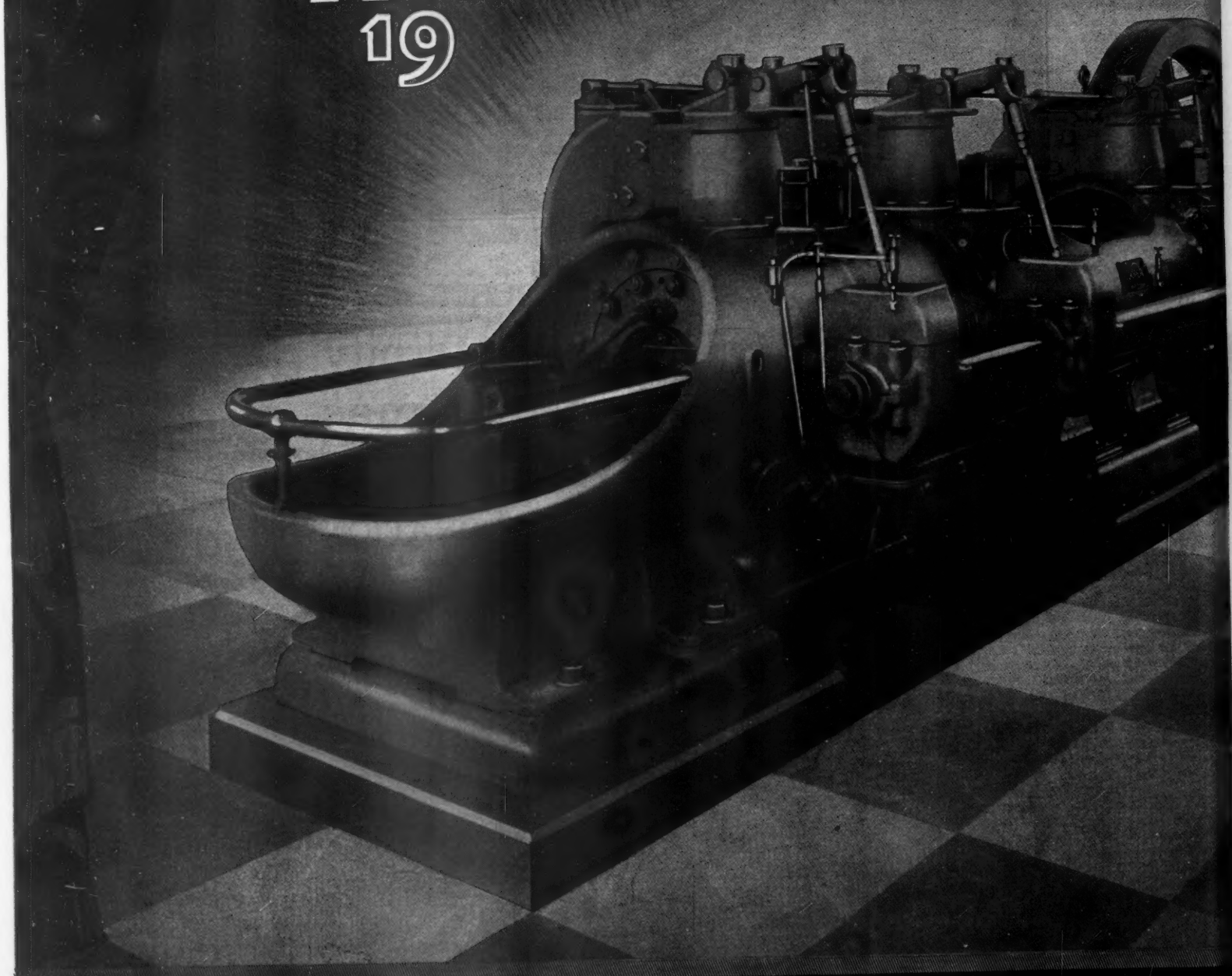


...Best Wishes...
to the Oil & Gas Fraternity
for a Merry Christmas
and a Happy New Year
UNION WIRE ROPE CORPORATION



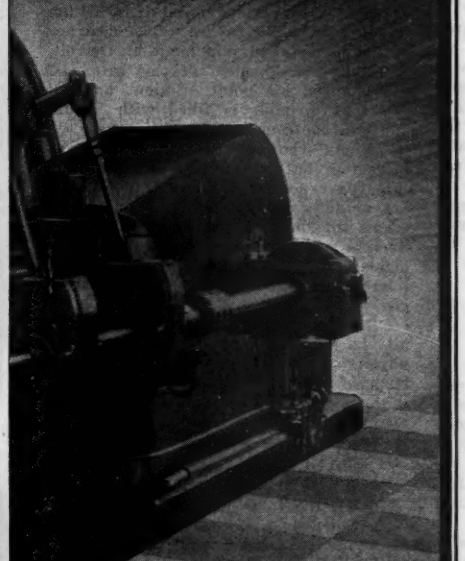
IT HAS WON A PLACE IN GAS INDUSTRY'S HALL

TYPE 19



The COOPER-BESSEMER

IN THE OF FAME



1833
You're Always Safe in choosing A Cooper

Main line compressor stations had long felt the need for an intermediate size gas engine —a double-acting gas engine easy to move and install—an engine with lower operating and maintenance costs — yet one with enough power and stamina for the strenuous service imposed by continuous loads.

Cooper-Bessemer Type-19 was first to meet this need. In three short years it has won its way into many of the largest compressor and booster stations: For accessibility, reliability, and economy it stands today in the Industry's Hall of Fame—beside its older and larger predecessors in the Cooper-Bessemer line.

Built as a single cylinder 200 B. H. P.; twin cylinder 400 B. H. P.; single-tandem 380 B.H.P. and twin-tandem 760 B.H.P.

THE COOPER-BESSEMER CORPORATION
Formerly The C. & G. Cooper Co. and The Bessemer Gas Engine Co.
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615 KENNEDY BLDG., TULSA, OKLA.

CORPORATION MT. VERNON, OHIO. GROVE CITY, PA.

Natural Gas Developments

FORM CARBON BLACK EXPORT CORPORATION

Representatives of companies producing more than 92 per cent of the world output of carbon black have formed the Carbon Black Export Association, Inc., a Delaware corporation organized under the Webb-Pomerene law, to promote the rapidly growing interests of American carbon black manufacturers in foreign markets.

Participating in the formation of the export association were Binney & Smith Co., representing Columbian Carbon Co., Coltexo Corp., Keystone Carbon Co. and Texas-Louisiana Carbon Black Co.; United Carbon Co., including its subsidiaries, Kosmos Carbon Co., Eastern Carbon Black Co., and Crystal Carbon Co.; Godfrey L. Cabot, Inc., including Texas Elf Carbon Co., Cabot Co., Cabot Carbon Co., and Gas Products Co.; J. M. Huber, Inc., including J. M. Huber Co. of Louisiana, Inc., Ebony Carbon Co., Weston Carbon Co. and J. M. Huber Pigment Co.; the Palmer Gas Products Corp., representing the associated carbon black interests of the Palmer Corp. and Electric Bond & Share Co.; and R. W. Greeff & Co., Inc., representing Texas Carbon Industries, Inc.

The officers of the association will be Norman Lee Smith of Binney & Smith Co., president; Edmund Billings of Godfrey L. Cabot, Inc., vice president; R. H. Greeff of R. W. Greeff & Co., secretary; G. A. Williams of United Carbon Co., treasurer; H. W. Huber of J. M. Huber Co., assistant treasurer. They, together with John W. Herron of Palmer Gas Products Corp., will constitute the board of directors.

Carbon black exports have been growing rapidly in recent years, reaching a total, according to the United States Bureau of Mines, of about 78,000,000 pounds in 1928, valued at nearly $7,000,000. Exports for 1929 are estimated to exceed 100,000,000 pounds. Among the principal foreign purchasers are Canada, England, France and other European countries, but distribution is actually world wide; some carbon black is even shipped 1,200 miles on camel-back into the interior of China for the manufacture of Chinese stick ink. The greatest foreign consumption, however, is in the compounding of rubber, the consumption by foreign rubber industries having shown marked expansion in recent years.

Although the situation has shown some improvement within the past few years, export marketing of carbon black has not been satisfactory, from the standpoint of the seller, since the war days. Heavy overproduction of domestic carbon black from 1922 to about 1926 accounted for the accumulation of huge reserve stocks, and disposal of this surplus abroad naturally entailed price sacrifices in many instances. While the situation is now better from the price standpoint, the present co-operative action among principal interests is expected to go far toward final stabilization of the export market.

ARKANSAS NATURAL PLANS

Following President Hoover's request for more business next year, D. W. Harris, vice president and general manager of the Arkansas Natural Gas Corp. has announced an expansion program for 1930 of $6,000,000.

"Of the total expansion mapped out for 1930," declared Mr. Harris, "the investment has been divided into a number of classes including gas pipe lines, compressor stations, gas well drilling operations and oil exploration and development, acquisition of acreage and building new plants."

LESSOR HELD SUBJECT TO DRAINAGE LOSSES

The drainage of oil and gas lands through adjacent wells permitted by the lessee of land has been held by the Court of Appeals of Kentucky to subject the lessee to damages for the loss incurred by the lessor in royalties.

It appears from the opinion in the case of the Carroll Gas & Oil Co. and others versus Sherman Skaggs and others that a gas well had been drilled on the leased land and was capable of producing in paying quantities. The lessee capped the well for four years during which time the gas deposits on the land were exhausted by reason of wells located in the immediate vicinity being kept in production.

The lease contract provided for payment to the lessor of a certain percentage based upon the amount of gas obtained through the well which the capping of the well prevented him from getting while the gas was being taken from the source of the gas well on his own property.

The court in deciding the case held that the cancellation of the lease which the lessor had obtained would not amount to an election on his part that would bar recovery of damages for the implied contract to produce gas and pay the royalties, since fraud was not one of the elements that were relied upon to secure the cancellation.

UNITED GAS-MAGNOLIA

HOUSTON, Tex., Dec. 14.—United Gas Co. has deposited $1,500,000 for the purchase of the Magnolia Petroleum Co.'s gas properties. Contract has been signed and ratified and the transaction is expected to be closed early in January. Acquisition of Magnolia's gas properties by United Gas Co. will involve approximately $50,000,000, which is being underwritten by New York banking houses.

According to officials of United Gas, appraisal engineers of Stone & Webster some time ago completed a valuation of the properties of both companies. Their report recommended a merger of the two properties, which would materially reduce cost of operations.

ALABAMA APPROVES CONTRACT

Alabama Public Service Commission has approved contract recently made by Southern Natural Gas Corp. with Birmingham Gas Co. and Industrial Gas Corp. for sale of natural gas in Birmingham, Bessemer and outlying districts. Under this contract, which provides for the distribution of both coke oven and natural gas by the local companies within the Birmingham district, it is estimated that sales of natural gas in the first year of operation will approximate 2,500,000,000 feet, increasing to about 4,000,000,000 feet in the fourth year. Deliveries of natural gas are expected to begin about January 1.

HUGOTON, KANS., FIELD

The Argus Gas Co.'s No. 1 in the CNL NW NW, Section 29-33-36w, near Hugoton, Stevens County, Kansas, found 6,250,000 feet of gas in a sandy shale at 2,780 feet. The company now has three completed gas wells and three others drilling.

CARBON BLACK AT KETTLEMAN?

Representatives of Texas capital are reported in California looking into the possibilities of establishing a large carbon black factory there. It is understood they have contemplated building their plant at Kettleman Hills.

WICHISON GAS COMPANY OFFER TO WICHITA

TOPEKA, Kans., Dec. 16.—Natural gas can be delivered at the gates of Wichita at 25 cents per 1,000 feet, it was stated in the hearing of the Wichison Gas Co. for a certificate of authority to sell domestic gas at Wichita.

The Wichison company has been an industrial gas company, supplying gas to industries at Wichita and Hutchinson. It buys its gas from the Larutan pipe lines. The Wichison company wants to go into the domestic gas business as it has more gas than can be used profitably for industrial purposes. It is asking for authority to install domestic service throughout Wichita at a rate of 75 cents for the first 1,000 feet and 50 cents a 1,000 for all additional domestic gas each month.

The public service commission wanted to know whether the company had an ample supply of gas to sell. It was shown that last year the Wichita Gas Co. sold 1,761,974,000 feet of the gas in the city. The officials of the Wichison and the Larutan companies submitted a statement showing that they had sufficient gas properties to guarantee a supply of gas for at least 20 years under the present consumption. The Larutan company would charge the Wichison company 25 cents per 1,000 feet for gas at the city gates.

GAS EXPORT LIKELY

CHATHAM, Ontario, Dec. 14.—It is now strongly forecast that the forthcoming final report of the joint commission appointed to investigate the waste gas problem in Alberta will recommend the export of Turner Valley gas to the United States, under certain safeguards. No new precedent is involved, as natural gas was at one time exported from the Ontario fields to Detroit and Buffalo; though export permits were later revoked. A project is mooted to utilize the existing pipe line of the Canadian Western Natural Gas Co. to the Bow Island Field, a 75-mile extension being sufficient to link this with the prospective markets in northern Montana.

NATURAL GAS SAFETY PRIZES

Four prizes were taken by natural gas subsidiaries of the Standard Oil Co. of New Jersey in recent contests conducted by the National Safety Council. First award in the natural gas gasoline department of the petroleum section was won by the Hope Construction & Refining Co., which had no lost time accidents. The Hope Natural Gas Co. received second prize in the public utilities contest, gas division, for organizations with over 1,000 employes, and the Peoples Natural Gas Co., placed third in the same division. Third prize in group "B" of the gas division, public utilities contest, was won by the Reserve Gas Co.

GAS FOR THREE TOWNS

Natural gas has been turned into the gas distribution systems of the Community Natural Gas Co. at Manitou, Snyder and Mountain Park, Okla. A 6-inch line, connecting with the main line transmission system of the Lone Star Gas Co. at Frederick, has been completed northward to Manitou and Snyder and a 3-inch line from Snyder to Mountain Park.

GAS FOR ROSEBUD, TEX.

ROSEBUD, Tex., Dec. 14.—With 200 subscribers, natural gas is now obtainable here for the first time.

IMPORTANCE OF HELIUM STRESSED BY CHEMIST

"It is helium, plus the work of the Aluminum Co. of America in the development of duralumin, which has really made airships possible in this country today," declares Dr. Harrison E. Howe of Washington in Iudustrial and Engineering Chemistry Journal of the American Chemical Society. The importance of chemistry in aviation is too little stressed, asserts Doctor Howe.

"The amount of prejudice and opposition to the use of helium has been tremendous, though it is rapidly diminishing. Today few doubt that helium possesses many advantages and that its characteristic safety greatly outweighs any disadvantage.

"The chief engineer of the Goodyear Zeppelin Corp. is convinced that helium is the only thing to use. The designer of the all-metal airship made at Detroit, originally an opponent of this safe gas, has changed his point of view, and today that dirigible is filled with helium and will continue its use.

"Others who not only did not believe in helium but had no use for any airships have now changed their views and are actually engaged in furthering programs for lines of commercial dirigibles. Success will depend upon the noninflammable gas, for our public would not tolerate the hazard involved with hydrogen.

"But we must point out that, after all, it is the work of chemistry and physics which has made the whole enterprise possible through providing helium in great quantities and in devising methods for its repurification."

PAULDING'S SHORTAGE

PAULDING, Ohio, Dec. 14.—Paulding's shortage of natural gas, which has been due to lack of pressure from the wells in the producing field near Payne, in Paulding County, in the extreme western part of Ohio, is to be overcome, it is stated, by the reconstruction of the old artificial gas plant, which burned in 1926. The Payne Field was opened about five years ago and some fairly good gas wells as well as oil wells were developed, but the volume and pressure decreased to such an extent, that it is now of little value, although by the drilling of new wells, the chances are that a sufficient supply of gas could be found for future use for a long period.

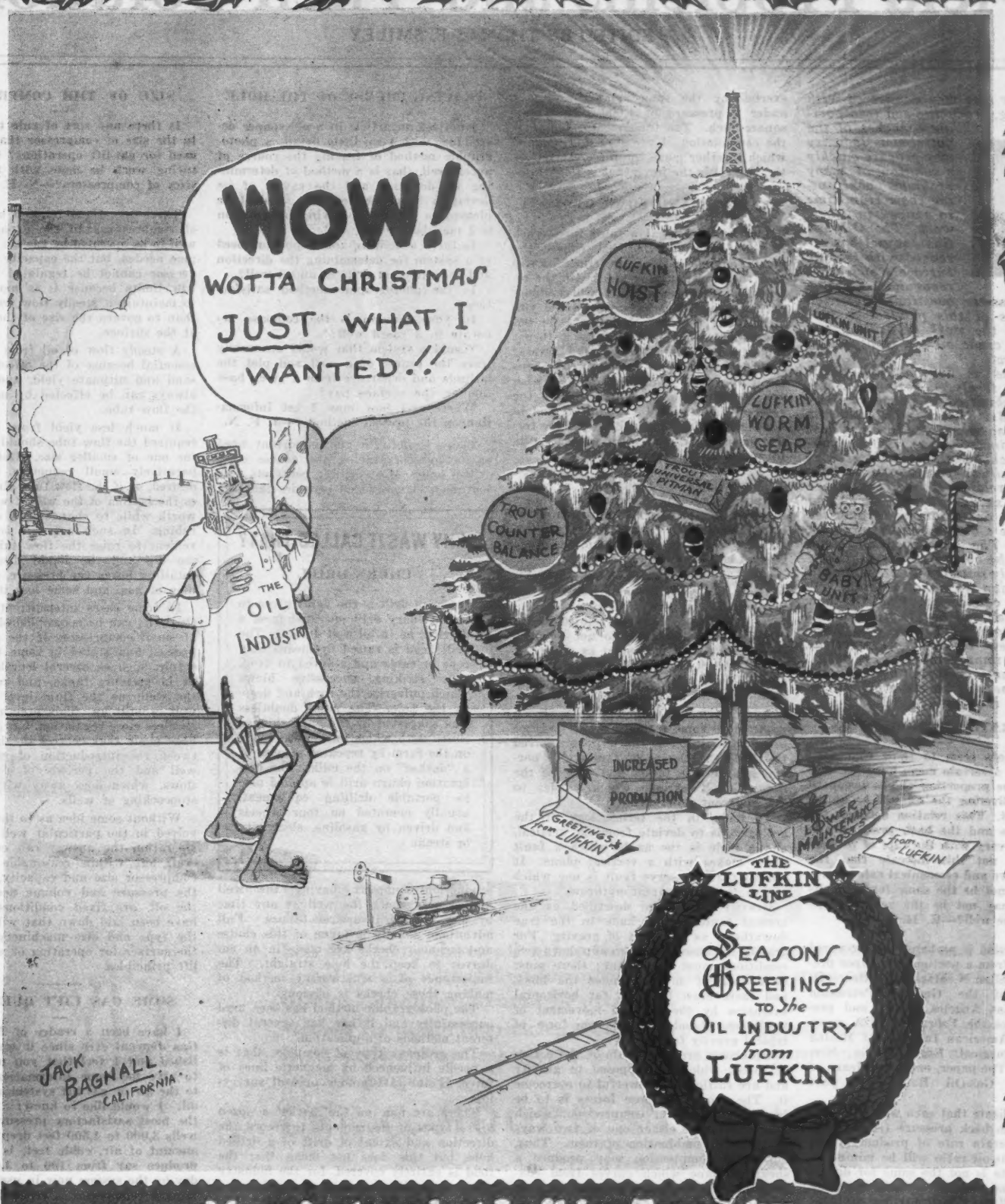
UNITED-CONSOLIDATED

Acquisition by the United Gas Co. of approximately 51 per cent of the common stock of the Consolidated Gas Utilities Co. has been completed. Control was obtained through the purchase of 44 per cent of the common stock by the United Gas Co. and approximately 7 per cent by the American Utilities and General Corp., an affiliated holding company.

Consolidated Gas serves about 51 towns and cities in western and northern Oklahoma and central and southeast Kansas. The company owns approximately 1,165 miles of main pipe line, 300 miles of lateral lines, 374 miles of distribution lines and numerous compressor

MADISONVILLE DISTRIBUTION

Distribution of natural gas to Madisonville, Ky., is to be made by Missouri-Kansas Pipe Line Co. under a franchise just obtained by the company, Frank P. Parish, president, announces. This will be the fourth market to be entered in Kentucky by Missouri-Kansas, Owensboro, Henderson and Hawesville being the others.



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Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

BEST RATE OF PRODUCTION

Experiments seem to show that each oil well has a certain mean back pressure at which the proportion of gas produced by it in delivering the oil will be at the lowest point. This relation between the gas-oil ratio and the back pressure evidently will vary with the rate of production. Does not this indicate that the most effective and economical rate of production cannot be the same for all wells and even may not be the same always for the same well?—K. H. S.

This question is perhaps best answered by quoting from a portion of a paper prepared by Hallan N. Marsh and Bruce H. Robinson of the General Petroleum Corp. of Los Angeles, Calif., and presented before the February, 1929, meeting of the American Institute of Mining and Metallurgical Engineers in New York City. The paper, entitled "Means of Controlling Gas-Oil Ratio," in part states:

"Data indicate that each well has some certain mean back pressure (corresponding to a certain rate of production) at which its gas-oil ratio will be minimum. The best rate is not the same for different wells, and may not remain the same for any well over long periods of time. It is found that some wells are producing too fast, as indicated by the fact that restricting their production lowers their ratio, while other wells are producing too slow, as increasing their production lowers their ratio. The former is more often the case on new, flowing wells, and the latter is apt to be the case with old pumping wells where improved pump efficiency will often get out more oil with less than a proportionate increase of gas."

This would seem to answer your question in all its details, but it might be well to call attention to the fact that pressure is as fundamental as volume for it is obviously true that the force exerted by 1,000 cubic feet of gas under 100 pounds pressure is far less than the force exerted by the same quantity of gas under a pressure of 1,000 pounds per square inch. The fundamental factor is the combination of pressure and volume, which together make the force exerted by the gas. It is the force that is important.

"FAULTS" AND SOME GEOLOGY

I understand what a fault is, a crack in the formations that has caused the strata on one side of the crack to slip past those on the other side, with the result that there is a break where under normal conditions the strata would run right along continuously. But I do not understand what is meant by a thrust fault. Sometimes it is called a reverse fault (assuming that the two expressions mean the same kind of fault). I wish you would explain what a thrust (or reverse) fault is and I would be glad to know what kind of conditions in the formation of the earth's crust caused faults to appear at all.—A. T. D.

This subject of faulting is a rather complicated one for there are many things involved in the earth's movement that bring about these fractures in a mass of rock or in a stratum or vein, but your general statement is correct.

Any standard geology deals with this subject. Bailey Willis and Robin Willis in their recent work, "Geologic Structures," have covered the subject in a clear manner, but they do not seem to class any type of movement as a "thrust fault," except in describing "upthrusts" and "downthrusts," the formations of some types of broad mountains.

As a matter of fact, a force has been required in some form in every instance to cause faulting, so the writers referred to divide the classes of faults into normal and reverse faults and describe the normal fault as one which "hades to the apparent downthrow."

To hade, in the terminology of the geologist, is to deviate from the vertical, and a hade is the angle which a fault plane makes with a vertical plane. It follows that a reserve fault is one which "hades to the apparent upthrow."

Gravity faults are described as the normal faults which hade to the true downthrow as an effect of gravity. For gravity to cause a block to slip down two conditions must be present: there must be a lack of support under the block and there must be room for horizontal extension by the forward movement of the block. Landslides are one form of typical gravity faults.

Upthrusts are the result of the action of forces which are opposed to gravity and are sufficiently powerful to overcome it. The source of those forces is to be found in horizontal compression, which may operate in either one of two ways or in some combination of them. Thus, horizontal compression may produce a shearing plane which curves from considerable depth upward toward the surface. Displacement on such a plane is the reverse of a landslide.

Upward movement of the blocks on the curved base must then result in tilting the upper surfaces away from the fault, in the opposite slope from that caused by down-sliding. This distinction affords an important means of determining whether a given change of position has been due to down-sliding or upthrusting.

The other way in which horizontal compression may act to lift masses against gravity is by changing the form of the deeper-seated section. Assuming that there is no significant change of volume and that the horizontal dimension of a mass is shortened, the mass must elongate vertically. The elongation will usually push upward and raise the surface.

TRACING COURSE OF THE HOLE

I noticed an article in a newspaper describing, with very little detail, a photographic method of tracing the course of an oil well, that is a method of determining its direction and the extent of its deviation from the vertical. I shall be pleased to get the following information if I may bother you:

Is there a definite and important need of a system for determining the direction and the extent of drift in an oil well?

Is the photographic method satisfactory?

In your opinion is the compass accurate in a cased well?

Would a system that would accurately trace the course of a well and plot the latitude and departure from a given base line on the surface pay?

Where and how may I get information on the present methods?—J. F. N.

There is definite and important need of methods of tracing the course of a drilled hole. Most drilling contracts now contain a clause which provides that the production company having the well drilled may check the well at any time by any method it desires to use. Full advantage usually is taken of this clause and frequent checks are made in an endeavor to keep the hole straight. The importance of a trustworthy method of making these checks is obvious.

The photographic method has been used successfully and it has had several different methods of application.

The ordinary type of compass, that is a needle influenced by magnetic lines of force, is not satisfactory in well surveying.

There are now on the market a dozen or so types of instruments to record the direction and extent of drift of a drilled hole, but this does not mean that the field is entirely covered, for the industry always is willing to adopt new and better equipment in all of its branches.

For detailed information it is suggested that you address the United States Bureau of Mines in Laramie, Wyo. A bibliography on this subject prepared by the technical department of the Tulsa Library is being mailed to you. It names the principal articles on this subject that have been published to date.

If you contemplate doing anything in the way of designing an instrument for recording direction of hole it is suggested that you first have a patent attorney make search of the records of patents issued in Washington, D. C., and send you copies of each that is available, for the field has been pretty well covered and you might do a lot of work only to find that someone already covered the idea with patent.

WHY WAS IT CALLED THAT?

CHURN DRILL

Churn drill is the name given to a stationary drill operated from a derrick, as in oil-well drilling. The drill head is raised by means of a rope or cable and allowed to drop, thus striking successive blows which pulverize the rock and deepen the hole. The name doubtless was suggested by the old-fashioned churn with which butter was made on the farm by repeated strokes of a "dasher" on the milk. The designation churn drill is applied also to portable drilling equipment, usually mounted on four wheels and driven by gasoline, electricity or steam.

SIZE OF THE COMPRESSOR

Is there any sort of rule to follow as to the size of compressor that should be used for gas-lift operations? Can repressuring work be done with the smaller sizes of compressors?—N. E. S.

There is a fixed relation between size of compressor and the capacity of the well to be operated by gas lift for the volume needed, but the capacity of the compressor cannot be regulated within narrow limits because it is more essential to maintain a steady flow from the well than to govern the size of the machinery at the surface.

A steady flow of oil from the well is essential because of the effect on the oil sand and ultimate yield, and regulation always can be effected by manipulating the flow tube.

If much less yield from the well is required the flow tube should be changed for one of smaller size. But if a comparatively small reduction in yield is desired, or if the flow tube already reaches the bottom of the well it would not be worth while to change to a smaller size tubing. In such cases it is more convenient to raise the flow tube, reducing the dip and the liquid discharge, and entailing lower gas pressure, greater volume of gas, and some loss in efficiency.

In some cases intermittent flowing of the wells can be accomplished by the use of small compressors if the gas is compressed and stored in some type of reservoir, such as several lengths of casing or in pressure tanks, and released into the wells as the fluid level within the well is built up. This practice, however, requires close regulation, but devices have been made that control the intervals between the introduction of gas into the well and the periods of rest between flows, which does away with the hand stopcocking of wells.

Without some idea as to the details involved in the particular well under consideration the answer can only be general, but within reasonable limits the compressor size and capacity, as well as the pressure and volume needed to lift the oil, are fixed conditions and rules have been laid down that will determine the type and size machinery needed at the surface for operation of wells by air-lift principles.

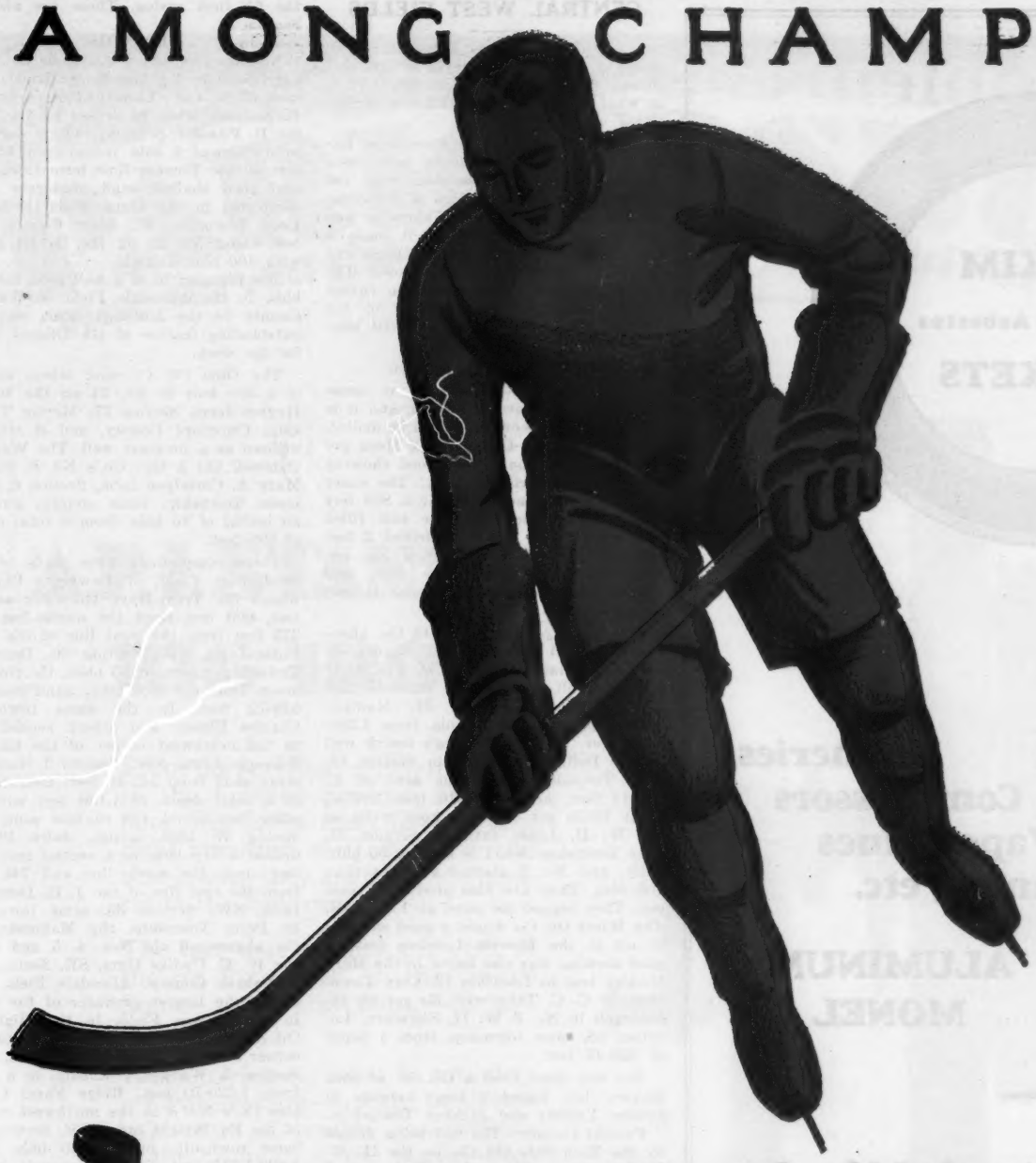
SOME GAS LIFT QUESTIONS

I have been a reader of The Oil and Gas Journal ever since it was first published and I feel that you may be able to give me some information in regard to the air or gas lift system of producing oil. I would like to know: 1. What is the most satisfactory pressure to use in wells 3,000 to 4,500 feet deep? 2. What amount of air, cubic feet, is required to produce say from 100 to 1,000 bbls. a day by the system now in use? 3. How large a compressor is required to furnish air or gas for operation of same?—J. M. W.

No adequate answer to these questions seems possible for the reason that certain factors involved are not touched.

Robert Sterling, a mechanical engineer of London, England, and an authority on gas lift practice, recently wrote "The Gas-Air Lift Pocket Book" which may be bought from Spon & Chamberlain, 120 Liberty Street, New York, for $2. This little book contains the information you desire about gas-air lift practice and it is suggested that if you get a copy of it you not only will be able to get the answer to your problem but also will get many valuable suggestions on this subject.

AMONG CHAMPIONS



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Everywhere a Good Gasket Is Required

CENTRAL WEST FIELDS

(Continued from Page 80)

company intends to move in several machines. (The oil showing at 642 feet is in what is known as the Clinton formation.)

Monroe County — The Petroleum Exploration Co. has completed both tests on the structures associated with the fault near the eastern edge of the county. The Shirley well near Unionville was finished at 675 feet, where it made a good gas well. It has been capped and the exact production is not known. The Howell well, in the southeastern corner of the county, was completed in the Trenton. A production of 3 to 10 bbls. natural is reported.

Tests Planned in Newton

Newton County—A number of leases have been taken near Brooklin, and it is rumored one or more tests will be drilled.

Perry County—Daugherty & Heck are reported as having a very good showing in their test north of Troy. The exact location is not known, but it is 858 feet deep, and was said to have half filled with oil after it had been drilled 2 feet into the sand. The production has not been determined since the well was capped until storage arrangements can be made.

Pike County—The Ohio Oil Co. abandoned Nos. 3 and 5 M. F. Snyder, in Section 2, Madison Township. The Birkley-Hill well, drilled by William Bell and others in Location 31, Madison Township, produced 35 bbls. from 1,296-1,313 feet. C. C. Taliaferro's fourth well on the Della Kime lease in Section 12, Clay Township, found the sand at 1,-110-44 feet, and made 10 bbls. initial. F. B. Hillis got two very good wells on the W. H. Lindy farm in Section 31, Clay Township. No. 1 is making 50 bbls. daily, and No. 2 started at more than 100 bbls. They are also producing some gas. They topped the sand at 1,311 feet. The Wiser Oil Co. found a good showing of oil in the Everett Loveless test. A good showing was also found in the Mary McAtee test in Location 12, Clay Township, by C. C. Taliaferro. He got an 18-bbl. well in No. 3 W. H. Shawhan, Location 18, same township, from a depth of 926-47 feet.

The San Juan Coal & Oil Co. of New Mexico, has leased a large acreage in Center, Liberty and Jackson Townships.

Pulaski County—The test being drilled by the Mich-Ohio Oil Co. on the H. W. Bledsoe farm, 1½ miles northwest of Francisville, is shut down until another rig can be moved in.

Spencer County—The Eastern Gulf Oil Co. plugged its William Polster test in Huff Township after going 937 feet. No. 3 Leo Strassell, in Ohio Township, was plugged by Randall & Sharp.

Steuben County—An unknown wildcat is reported drilling in the northern part of the county.

Sullivan County — Since Siosi Oil Corp.'s damaged wells have been repaired and put back on the line, the Sisosi Field has been producing around 1,300 bbls. per day. A. R. Hooten abandoned his Nos. 1 and 5 J. T. Carruthers, in Section 30, Turman Township. Fred Bays is supplying Sullivan with gas from the Harris well, having completed his new pipe line. He plans to test the vicinity with additional wells. Seotz and others abandoned No. 2 G. W. Buff, in Section 4, Gill Township, at 851 feet, after shooting failed to increase the showing. No. 4 C. W. Scott drilled in Section 6, Fairbanks Township, by Scott Whitlock & Morris, is being pumped off the beam and is coming back to good production.

Vigo County—The Ohio Oil Co. got a light producer in its W. C. Piety test in Section 32, Prairie Creek Township. It was making a second location on the farm. Hamill & Dill are down 1,900 feet and going slowly in No. 1 Rose Prevo, in the same section. Contractor Tuscon has a difficult task fishing for two sets of lost tools at 3,300 feet in Siosi's deep test, No. 8 William Riggs. He is down 2,000 feet in No. 9 Riggs, and setting the 6⅝-inch casing. Those are also in Section 32.

ILLINOIS

Another completion was made on Arsenal Island in the Mississippi River, just west of St. Clair County, Illinois, by W. B. Simpson when he drilled in No. 2 on the B. Pitzman property, which shows a production of 4 bbls. initial from 614-52 feet, in the Trenton lime formation. Several good shallow sand producers were completed in the Dupo Field of Sugar Loaf Township, St. Clair County, the best being No. 23 on the Dyroff farm, with 100 bbls. initial.

The bringing in of a well good for 105 bbls. in the Allendale Field of Wabash County on the Mullinax farm, was the outstanding feature of the Illinois Field for the week.

The Ohio Oil Co. and others drilled in a dry hole in No. 24 on the W. L. Hughes farm, Section 27, Martin Township, Crawford County, and it will be utilized as a pressure well. The Warren-Caldwell Oil & Gas Co.'s No. 8, on the Mary A. Cortelyou farm, Section 6, Robinson Township, same county, pumped an initial of 10 bbls. from a total depth of 998 feet.

Three completions were made in the Bridgeport Field, of Lawrence County, where the Treat-Hays Oil Co.'s second test, 600 feet from the north line and 375 feet from the west line of the Tom Potts farm, SW, Section 20, Dennison Township, produced 25 bbls., the first 24 hours from the McCloskey sand from 1,-846-72 feet. In the same township, Charles Blosser and others' second test in the northwest corner of the Charles Gillespie farm, SW, Section 1, found a stray sand from 542-48 feet, then drilled to a total depth of 1,180 feet with no other pay found, the shallow sand producing 10 bbls. initial. John Phipps drilled a dry hole in a second test, 167 feet from the north line and 740 feet from the east line of the J. E. Dennison farm, SW, Section 35, same township. In Petty Township, the Mahutska Oil Co. abandoned old Nos. 4, 5 and 6 on the W. E. Updike farm, SE, Section 35.

Wabash County, Allendale Field, furnished the largest producer of the week in the Illinois Field, in the Highland Oil & Gas Co.'s No. 3 in the southwest corner of the J. M. Mullinax farm, SW, Section 5, Wabash Township, in a sand from 1,520-70 feet. Ridge Farm Oil & Gas Co.'s No. 3 in the northwest corner of the Ed Wright farm, NE, Section 13, same township, pumped 10 bbls. from 1,496-1,515 feet. Same company's No. 3 well, 600 feet from the north line and 400 feet from the west line of the C. E. Gillett farm, NE, Section 14, was dry at a total depth of 1,497 feet. Joe S. Young, Jr., and others' No. 6 well, 650 feet from the north and west lines of the E. Alka heirs, NE, Section 1, produced 20 bbls. initial from the Biehl sand from 1,356-68 feet. Same parties abandoned No. 4 Jesse Cisil farm, Section 2, same township. J. D. Toomey and others abandoned No. 4 George D. Smith farm, SE, Section 5, also No. 6 Mary U. Litherland farm, SW, Section 5, same township.

In southwestern Illinois, Abbott & Connelly's test, 600 feet from the south line and 300 feet from the west line of the Theodore and George Stockel farm, in the Renault Precinct 31, of Monroe County, found a dry hole in the Trenton from 370-80 feet.

In the Dupo Field of Sugar Loaf Township, St. Clair County, the Ohio Oil Co.'s No. 22 in the southwest corner of the Matilda Dyroff farm, NE, Section 28, pumped 65 bbls. initial from 470-508 feet, while No. 23 in the northwest corner of the same farm, produced an initial of 100 bbls. from 457-506 feet. Same company's No. 1 A. J. Shondy farm, NW, Section 34, pumped 60 bbls. initial from 557-606 feet, and No. 2 on the William Anderline farm, NE, Section 33, pumped 15 bbls. in 24 hours from 688-728 feet, in depth. Millhart and others' No. 1 on the Brillinger farm, SE, Section 4, proved a dry hole from 633-731 feet. Mitchart and others' No. 1 Stoll, Section 4, was also a dry hole

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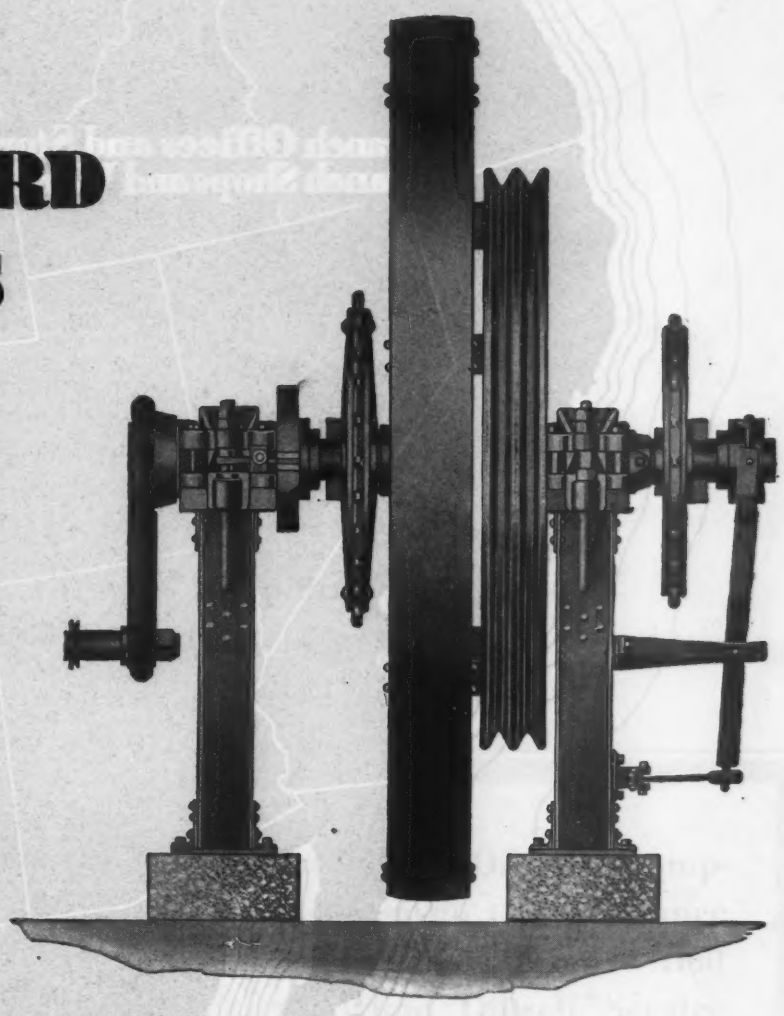

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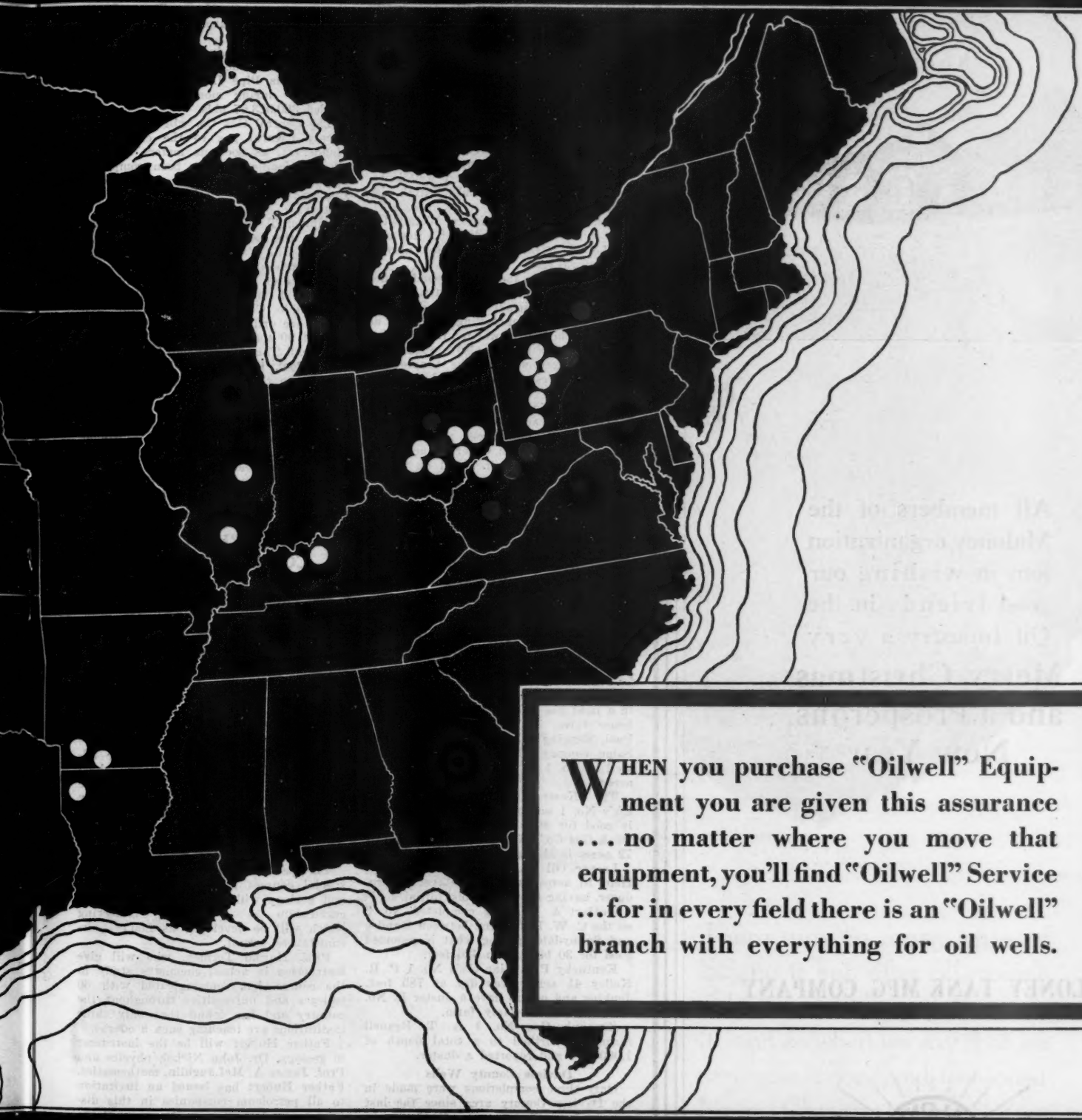

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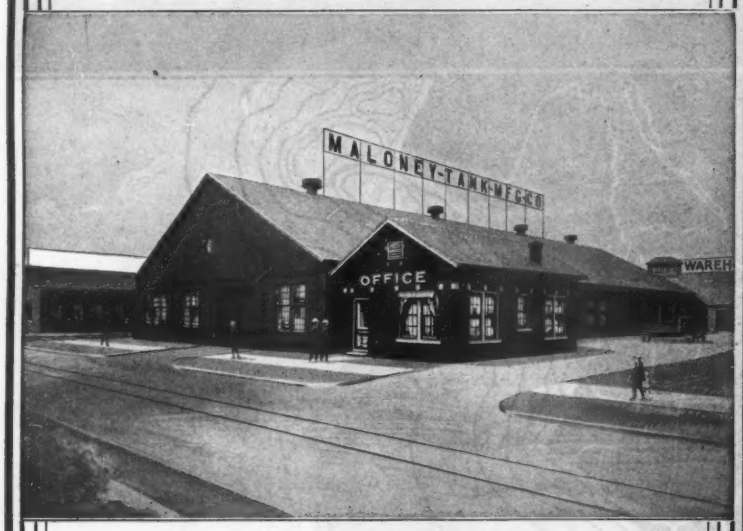


All members of the Maloney organization join in wishing our good friends in the Oil Industry a very

Merry Christmas and a Prosperous New Year

MALONEY TANK MFG. COMPANY
TULSA, OKLA.

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

MALONEY TANKS

from 620-713 feet. Ellis & Thomas' No. 1 Charles LaCroix farm, NE, Section 28, same township, produced 40 bbls. in 24 hours from 491-527 feet, all being in the Trenton limestone formation.

KENTUCKY-TENNESSEE

(Continued from Page 68)

increase was 18,793.41 bbls.; Muhlenberg County increased 2,230.92 bbls.; Hancock County's increase was 424.15 bbls., and McLean County increased 70.54 bbls., a total increase for October over September in the five counties of 74,715.98 bbls.

Ohio County Wells

The best completion in Ohio County was a test drilled by Hupp & Duff on the J. A. Stewart farm, northeast of Buford, near the East View School, and east of the Nancy Wiggington farm, where the two large Stray sand producers were found. The Stewart well is reported showing for 200 bbls. initial, also in the Stray sand.

Just south of the Nancy Wiggington lease, unknown parties drilled a dry hole on the W. J. Dawson 110 acres, also in the Buford Pool.

James C. Ellis and others found a nice gas well in No. 9 on the Otis Greer farm, in the Whittaker Pool, and the gas will be utilized for driling purposes, as well as furnishing power for the pumping of wells. Same parties also brought in a very good gas well on the Stanley M. Greer 134 acres, same pool, and a dry hole on the Perry Talley farm, in the Jett sand. No. 2 is drilling on the Stanley M. Greer 134 acres. Nos. 10 and 11 are starting on the Otis Greer, and also Nos. 2 and 3 on the Otis Greer 76 acres, all in the Whittaker Pool. No. 1 on the 76 acres, was a dry hole.

Ellis & Thomas have what is reported a 150-bbl. initial producer on the Melvin S. Bartlett farm, south of Taffy and adjoining the Kate Funk farm on which a good well was found some time ago.

National Deposit Bank's No. 3 on the T. P. Royal 25 acres in the Friendship Church Pool, is reported at 30 bbls. initial, as is No. 4 same farm.

T. P. Royal and others' No. 10 on the T. P. Royal 60 acres, in the Friendship Church Pool, is reported at 25 bbls. from the Jett sand and No. 11 same farm at 50 bbls. initial.

Missouri-Kansas Pipe Line Co. brought in a light gas well on the Arthur Whitehouse farm, in the Friendship Church Pool, showing a volume of 118,000 feet. Same company has a 700,000-foot gas well in No. 1 on the Mary L. Bosley 20 acres.

The Kemrow-Cumberland Petroleum Co.'s No. 1 on the Hill Rhodes 66 acres is good for 40 bbls. and the Three C's Oil & Gas Co.'s No. 1 on the Hill Rhodes 72 acres is also good for 40 bbls. initial.

Leeper Oil Co.'s No. 4, on the Obie Helm 97 acres, is above the average producer, having shown 70 bbls. initial.

DeHart & Williams completed No. 3 on the C. W. Duff farm, between Dundee and Sunnydale, getting what is reported good for 30 bbls. from 426 feet.

Kentucky Pipe Line Co.'s No. 1 P. R. Kelley 41 acres, was dry at 785 feet. Jenkins and others have a duster in No. 1 on the Sis Bellamy farm.

Sirman's Co., No. 1 A. T. Brunell farm, was drilled to a total depth of 1,000 feet and reported a duster.

Daviess County Wells

Only three completions were made in the Daviess County area since the last review, but all were more than average producers. The Petroleum Exploration Co.'s second test on the J. M. Clark farm, in the Utica Pool produced an initial of 75 bbls.

Evans & Garrison's No. 8 on the Davis Hrs., 109 acres, in the Utica Pool, is reported at 100 bbls. initial, and the Trognite Oil Co.'s No. 7 on the Trodgen farm, in the Red Hill Pool, reported at 35 bbls. initial.

Hopkins Gas Well

The Missouri-Kansas Pipe Line Co. made an excellent gas strike in its No. 3 on the Lester farm, about 12 miles out of Madisonville, in Hopkins County, making the second good gas strike on this same lease, while No. 2 has not yet been completed, due to a fishing job. No. 1 on the farm had a volume of 400,000 feet, while No. 3 has been reported at 3,500,000 feet. This company has purchased a franchise in both Madisonville and Hawesville, and will soon start on construction work to put gas into the two cities. The company is making plans for the construction of a main line from a gas reserve near Deanfield, in Ohio County, to supply Hawesville, and gas from the Lester farm will be piped to Madisonville.

Pipe Line Runs

Total runs made from wells served by The Illinois Pipe Line Co., in western Kentucky during month of November, totaled 360,923.67 bbls.

The Central Gas Co. will be ready to supply natural gas to the citizens of Henderson, as soon as meters are set, as the 15-mile line has been completed from the Sebree Field, in Webster County, to the south of Henderson County.

Samuel T. McGill is drilling a third test on the Leo Rosenblatt 60 acres, in the Pellville Field of Hancock County.

In Daviess County, the Ohio Oil Co. is drilling on the Barnett Johnson farm, also No. 1 on the Lindsay Taylor farm.

In Ohio County, D. J. White and others are drilling No. 5 on the Earnest Bickett 90 acres. Leeper Oil Co. is drilling No. 5 Tom Westerfield, in the Whittaker Pool. The Ohio Oil Co. is drilling No. 12 on the W. B. Kelley 105 acres. E. G. Pautle and others are working at No. 5 Charles Roach north 130 acres, and Stoner and others are drilling No. 1 Simon Greer farm, all in the Whittaker Pool. L. C. Young is drilling No. 1 on the Rhodes Lease, offsetting the Wiggington wells to the southwest. Hupp & Duff are drilling No. 2 R. C. Whittaker 63 acres.

ST. BONA. WILL OFFER COURSE IN PETROLEUM

BRADFORD, Pa., Dec. 14.—The Penn Oil Co. and other companies of this vicinity are co-operating with college officials of St. Bonaventure in the establishment of a course in petroleum chemistry which will be inaugurated at the Allegany, N. Y., institution in January with the opening of the second semester. St. Bonaventure College is in the center of the Bradford-Allegany Field.

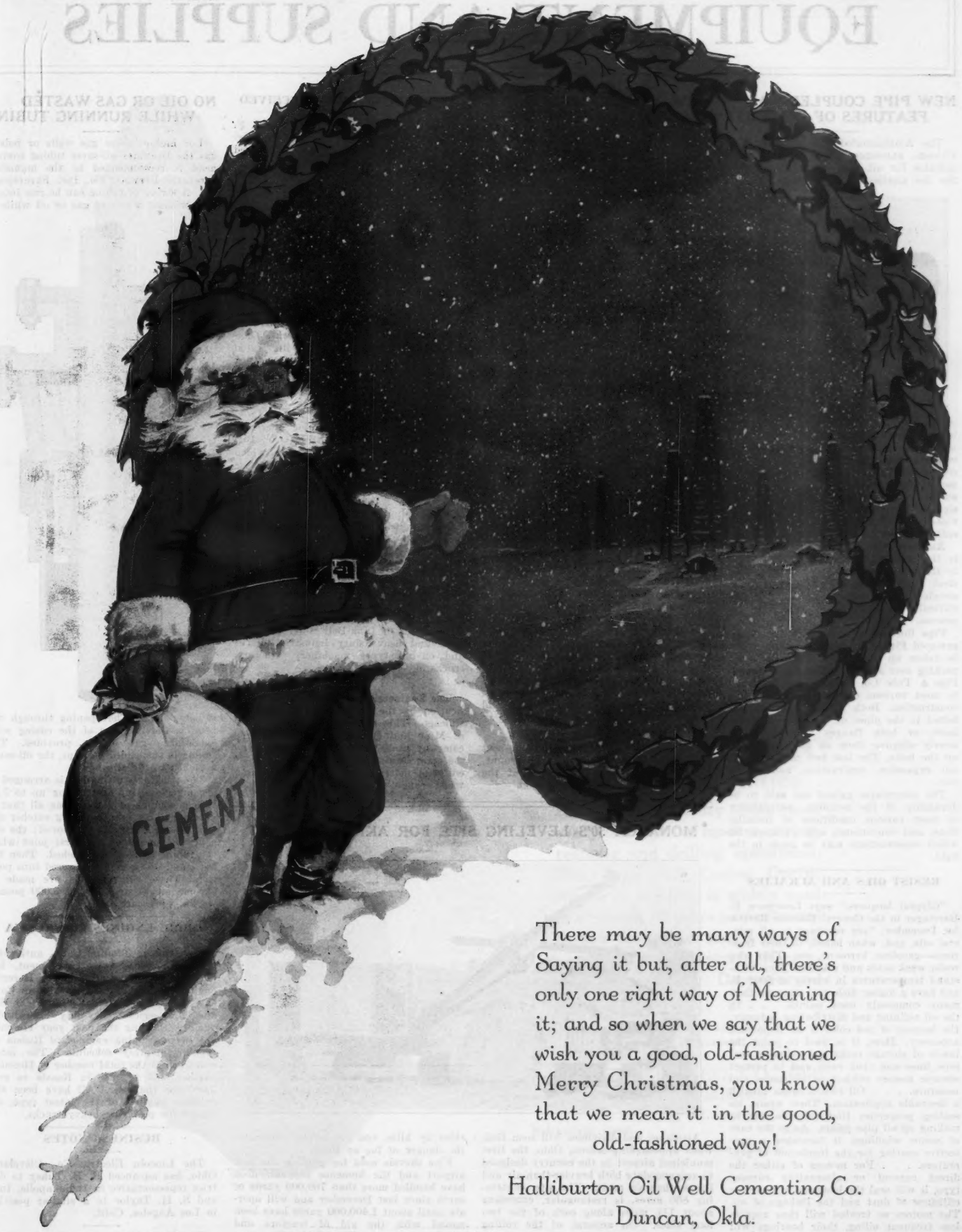
With the opening of the course, there will be an opportunity for further advancement in physics and chemistry which will grow to the awarding of a doctorate in engineering, it was said yesterday by Father Thomas Plassman, O.F.M., president of the college who also predicts a science building for his college within a short time.

The petroleum chemistry course and special courses in mathematics, physics and geology will form the nucleus of a curriculum in petroleum engineering which will be developed as fast as circumstances permit.

Prof. Harold Tormey, who will give instruction in actual chemistry study in the course, has communicated with 60 colleges and universities throughout the country and has found that only three institutions are teaching such a course.

Father Hubert will be the instructor in geology, Dr. John Nichol, physics and Prof. James A. McLaughlin, mathematics. Father Hubert has issued an invitation to all petroleum companies in this district to send their scientific problems to the college so that they can be worked out in the classroom.

The new course will be open not only to properly qualified seniors, juniors and graduates but also to the technical staff of the co-operating petroleum concerns in and around Bradford. Lectures in the course will include theories of formation of petroleum, methods of drilling and operating wells, field storage problems, transportation methods, theory of fractional, distillation principles of vacuum distillation, types of stills and many others dealing with the oil business in general.



There may be many ways of Saying it but, after all, there's only one right way of Meaning it; and so when we say that we wish you a good, old-fashioned Merry Christmas, you know that we mean it in the good, old-fashioned way!

Halliburton Oil Well Cementing Co.
Duncan, Okla.

EQUIPMENT AND SUPPLIES

NEW PIPE COUPLER HAS FEATURES OF INTEREST

The Amalgamated Pipe & Tube Co., Chicago, announces a new pipe coupling suitable for oil, gas, steam, water, etc., for the smallest to the largest sizes of

plain end pipe. The flanges are of malleable iron and the gland ring may be of malleable, cast iron or steel, etc. The coupling made of malleable iron resists corrosion. Packing rings are provided metal clad or plain in a wide range suited to the service required. The design of the flange and gland ring provides a stuffing box which hermetically seals the packing and joints.

An interesting feature of the coupling is the method of attaching the flanges to the pipe regardless of whether it be steel, cast iron or other metal. Foreign metals will not unite in welding but this difficulty is overcome by the hot bolt process.

Pipe lines constructed with the Amalgamated Pipe & Tube Co. couplings may be taken up and relaid using the same packing over and over. The Amalgamated Pipe & Tube Co. couplings are designed to meet various conditions in pipe line construction. Both flanges may be hot bolted to the pipes or one tight and one loose, or both flanges may be loose, merely slipping them on and tightening up the bolts. The last two methods permit expansion, contraction, and deflection.

The advantages gained are said to be durability of the coupling, adaptability to meet various conditions of installations, and convenience and quickness by which constructions may be made in the field.

RESIST OILS AND ALKALIES

"Glyptal lacquers," says Lawrence E. Barringer in the General Electric Review for December, "are resistant to all mineral oils, and, when baked, to their fractions—gasoline, kerosene, etc. They also resist weak acids and alkalies. They withstand temperatures in excess of 600° F. and have a higher dielectric strength than many commonly used paints. . . . In the oil refining and distributing industry, the lacquer of red color is an important accessory. Here, it is used to paint the inside of storage tanks and ships, to seal pipe lines and tank cars, and to protect electric motors subject to oil fumes and moisture. . . . Oil switch tanks furnish a desirable application. Then, again, its sealing properties find valuable use in making up oil pipe joints. As in the case of motor windings, it furnishes a protective coating for the insulation of generators. . . . For motors of either the direct current or alternating current type, it will seal the housings against the entrance of dust and the leakage of oil. The motors so treated will thus require less frequent oiling, their bearings will be less likely to run dry through leakage, and the motor maintenance costs will be substantially reduced.

NEW JONES & LAUGHLIN PIPE MILLS OPERATING

The Jones & Laughlin Steel Corp., Pittsburgh, Pa., has placed in operation in its Aliquippa plant two recently completed automatic seamless pipe mills, one for making pipe 6⅝ to 14⅜ inches outside diameter and the other for making pipe 2⅜ to 6⅝ inches. In addition to two reducing mills there are six hot working machines in the larger mill and five in the smaller.

The six hot working machines include a piercer, an expander, a plug mill, two reelers and a sizing machine. These are not set in a straight or continuous line, but are staggered, with short transfer tables between them, which gives a certain flexibility not possessed by a straight-line flow.

Leaving the sizing machine, the pipe traverses a set of cooling-racks, which again, for the purposes of convenience, instead of forming a straight line, are in two sections with transfer between them. When sufficiently cooled the pipe goes through a straightening machine, and then is delivered to the finishing department, where it is cut off to length, has the ends chamfered and threaded, receives a hydrostatic test and is passed into the shipping sheds.

FWD PERFORMS WELL IN FIELD

Because of its principle of construction the FWD truck, made by the Four Wheel Drive Auto Co., Clintonville, Wis., is reported to be giving good service in the oil fields, where there are no pavements and few satisfactory dirt roads. If a truck is to live in the oil field it must be able to carry almost any kind of load over any kind of road. The FWD drives through all four wheels and its four-wheel traction carries it over the poor roads, hills and fields, and through mud and sand.

"Streams of Gold," a folder being sent out by the Edwin Burhorn Co., Bayonne, N. J., describes an installation of the Burhorn Smaltower cooling system.

TRADE LITERATURE RECEIVED

"Arc Welding of Pipe Lines," by J. F. Lincoln, president of the Lincoln Electric Co., Cleveland, Ohio, which appeared in The Oil and Gas Journal of August 29, 1929, has been reprinted by the company and is being distributed.

An article on "Automatic Seamless Pipe Mill" by Sidney G. Koon, associate editor of the Iron Age, is being distributed in reprint form by the Jones & Laughlin Steel Corp., Pittsburgh, Pa. The article describes the process followed in two pipe mills recently completed by the company.

United Centrifugal pumps, manufactured by the United Iron Works, Oakland, Calif., are described and illustrated in a 16-page bulletin which also contains an article, "Flow in Pipes," by Michael D. Aisenstein, chief engineer of the company's pump division.

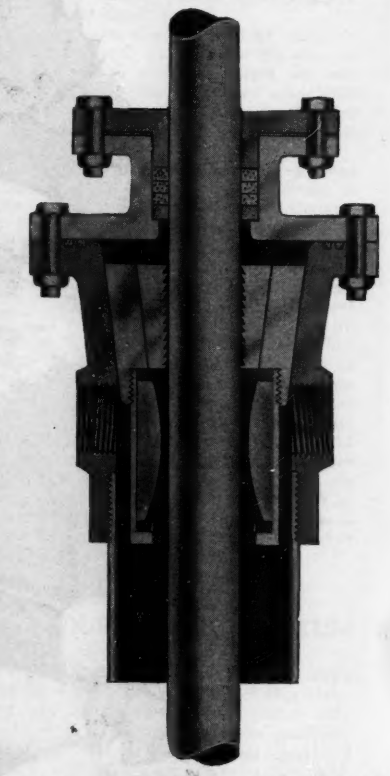
The new vest-pocket catalog issued by the Stockham Pipe & Fittings Co., Birmingham, Ala., contains 359 pages which not only cover the company's line of cast-iron, malleable-iron and electric cast-steel pipe fittings, but gives dimension data which make it easy to estimate the fittings for any job. Persons desiring the handy volume are requested by the company to ask for catalog H.

The Link-Belt Co., Indianapolis, Ind., has just published a 96-page Roller Chain Data Book, which is a manual for proper selection and application of chain. It presents many pages showing practical applications of Link-Belt roller chain on light and heavy duty industrial drives and on all types machinery, tractors, trucks, etc.

The Engineering Graphic is a new publication by the Sullivan Machinery Co., Chicago. This magazine takes the place of Mine and Quarry, published by the company since 1906. The new name and the new form permit a wider scope of editorial material and distribution to a wider range of industrial enterprises.

NO OIL OR GAS WASTED WHILE RUNNING TUBING

For high-pressure gas wells or poison gas the Brewster oil-saver tubing control head is recommended by the manufacturer, the Brewster Co., Inc., Shreveport, La. A string of tubing can be run into a well without waste of gas or oil while it



is being done. The opening through the head is the full size of the casing with extra-large gas outlets provided. The tubing is suspended on slips, the oil-saver attached to the slip bowl.

The packing stuffing-box is arranged to accommodate any size tubing up to 5 3/16-inch, a change of gland being all that is necessary. To pass a tubing catcher the bowl and slip ring are removed; the oil-saver is run in on the first joint while the tubing catcher is attached. Then the bowl and oil-saver are lowered into position. These control-heads are made of chrome nickel steel, tested 3,000 pounds working pressure.

MORE ENGINES FOR RUSSIA

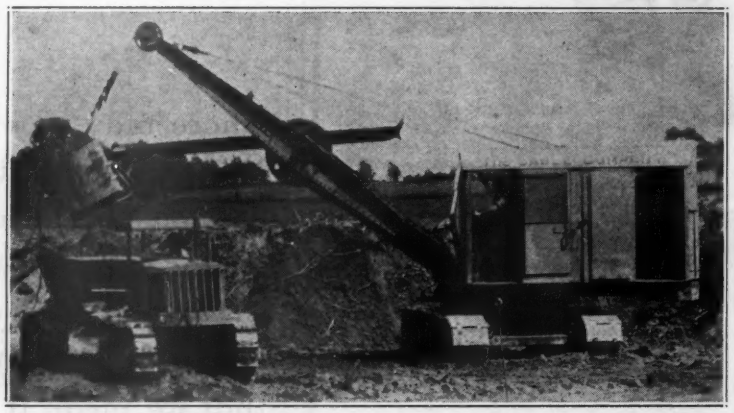
The Amtorg Trading Corp., authorized agent for the Soviet government, has placed its third large order for Hercules engines with the Hercules Motors Corp. of Canton, Ohio. It calls for 1,000 WX and YX series heavy-duty six-cylinder engines. During the past year Hercules has been shipping engines to Russia on regular monthly schedules. The latest order brings the total number of Hercules engines sold for use in Russia to over 3,000 for the year. All have been six-cylinder engines of the latest type, designed for powering heavy trucks.

BUSINESS NOTES

The Lincoln Electric Co., Cleveland, Ohio, has advanced R. B. Tuhey to district representative in Indianapolis, Ind., and S. H. Taylor to a similar position in Los Angeles, Calif.

The Linde Air Products Co. has opened an oxygen plant in Portland, Ore., with A. D. Davis as superintendent.

MONARCH 50'S LEVELING SITE FOR AKRON AIRPORT



Airplanes and dirigibles will soon find, when approaching Akron, Ohio, the first municipal airport in the country designed to accommodate both heavier-than-air and lighter-than-air craft. The site, containing 860 acres, is rectangular, extending about 1¼ miles along each of the two long sides. On account of the rolling and hilly topography it was not easy to find a satisfactory airport site. The one selected is on a summit, sheltered on two sides by hills, and its height eliminates the danger of fog or flood.

Five shovels used for grading the new airport and the immense zeppelin dock have handled more than 700,000 yards of earth since last December and will operate until about 1,400,000 yards have been moved with the aid of tractors and crawler wagons. The Cable Co., contractor, is using Allis-Chalmers Monarch 50 tractors to haul the loaded wagons.

Certified Service

The peace and contentment registered by the drilling crew of well No. 346, of the DeBataafsche Petroleum Maatschappij, at Louise, Borneo, D.E.I., (above), is characteristic of every crew which gets full recovery by using the H. C. Smith Type "C" Coring Outfit.

H. C. Smith Type "C" Coring Outfit Complete

The New H. C. Smith Type "F" Rock Bit Head

(Interchangeable rock core bit head to use with Type "C" Coring Outfit.) Available for sale after the first of next year.

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H. C. Smith quality tools meet every condition of modern coring, reaming and drilling operations. The Type "C" Coring Outfit, shown on the left, is widely used in all fields. It takes perfect cores in any formation that a fishtail or disc bit will penetrate. Renewable cutterheads. Drop-forged steel throughout.

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Merrie Christmas

to everyone in the Petroleum Industry is the sincere wish of our organization and in this holiday greeting we are joined by the entire personnel of our established connections

Frick-Reid

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

(Continued from Page 52)

J. M. Henry and others' No. 1 Abraham, SE cor. NW Sec. 4-5-8w ..... Rig.

GRANT COUNTY

Gypsy Oil Co.'s No. 1 Belderbeck, C SE SE Sec. 27-28-7w. Drlg. 4,800 ft.
Bailey's No. 1 Stover, C SW SE Sec. 20-27-5w ..... Rig on ground.
Baucher et al's No. 1 Deadman, SW SE Sec. 12-28-4w.. Drlg. 4,370 ft.
Cowden and others' No. 2 Vollmer, CEL NE SW Sec. 22-25-4w ..... Shut down 5,640 ft.
Otstot's No. 1 Tabor, C NE NE SE Sec. 23-26-3w ..... Drlg. 2,365 ft.

GREER COUNTY

Helmerick & Payne's No. 1 Henck, NW cor. Sec. 23-6-24w. Fishing 2,205 ft.
I. T. I. O. and others' No. 1 fee, C SW NE Sec. 17-6-24w ..... Straightreaming 1,903 ft.

HARMON COUNTY

S. M. Stauffer's No. 1 Castleman, SW NE Sec. 8-4-26w.. Shut down 625 ft.

HARPER COUNTY

Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW Sec. 14-26-24w ..... Fishing 6,161 ft.

HASKELL COUNTY

Holden's No. 1 Phillip, SE cor. Sec. 3-9-18e ..... Shut down 1,200 ft.
Marion Oil's No. 1 Sanders, NW NE SW Sec. 10-9-18e.. Shut down 2,387 ft.
Sanboise Gas' No. 1 Unknown, SW NW SE Sec. 32-9-21e.. Shut down 2,100 ft.

HUGHES COUNTY

Wright et al's No. 1 Ott, SE SW Sec. 15-5-11 ..... Rig.
Canady et al's No. 1 Kanard, NW SW Sec. 29-9-12 ..... Shut down 1,635 ft.
Irwin et al's No. 1 Jones, SE NW Sec. 30-5-10 ..... Rig on ground.

JACKSON COUNTY

Altus Oil Co.'s No. 1 Northington, NE cor. NE Sec. 4-1-20w ..... Shut down 2,020 ft.

KINGFISHER COUNTY

Superior Oil Co.'s No. 1 Story, SE cor. Sec. 25-19-5w .... Fishing 6,285 ft.
Galt Brown's No. 1 Wolf, NW SE Sec. 6-16-7w ..... Shut down 6,015 ft.

KIOWA COUNTY

J. D. Flannery's No. 1 Renave, SW cor. Sec. 25-6-18w ... Drlg. 830 ft.
Hyde et al's No. 1 Jones, SE cor. Sec. 23-3-18w-50 ..... Shut down 490 ft.
Merrick Oil Co.'s No. 1 Kelly, NW cor. SE Sec. 20-7-17w.. Shut down 1,165 ft.

LEFORE COUNTY

Red Bank Oil Co.'s No. 1 fee, SE SW NW Sec. 23-9-24.. Fishing 5,400 ft.; 15,000,000 ft. gas.

LATTIMER COUNTY

Limestone O. & G. Co.'s No. 1 Shaw, NW cor. NE NW Sec. 23-5-18e ..... Shut down 1,450 ft.
Limestone Oil & Gas Co.'s No. 1 McMurray, SW cor. SW Sec. 15-5-18 ..... Total depth 4,020 ft.; plug back to 2,550 ft.

LINCOLN COUNTY

Morgan & Flynn's No. 1 Johnson, SW NE Sec. 1-16-5 .... Wilcox sand 4,002-12 ft.; water; shut down.
Phillips Pet. Co.'s No. 1 Stephens, SE cor. NW Sec. 29-12-3 ..... Drlg. plug 5,100 ft.

LOGAN COUNTY

Currier's No. 1 Young, C SW NE SW Sec. 34-17-4w .... Cellar.
Haley & Smith's No. 1 Guier, SE cor. SW Sec. 33-18-3w.. Shut down 3,970 ft.

McCLAIN COUNTY

Homaokla Oil Co.'s No. 1 Newsome, SE NE NE Sec. 16-5-3 ..... Drlg. 3,582-97 ft.; total depth 3,605-85 ft.

McINTOSH COUNTY

Jennings Bros.' No. 1 Crabtree, NW SW NE Sec. 31-10-14 ..... Drlg. 2,700 ft.
Patterson and others' No. 1 Smith, SW cor. NW SE Sec. 32-9-16 ..... Shot 240 qts. 5,446-5,559 ft.; shot went off up hole; fishing.

MUSKOGEE COUNTY

Sessions' No. 1 Richard, SE cor. SW Sec. 29-13-19 ..... Drlg. 450 ft.
Mid-Western Oil Co.'s No. 1 Unknown, C NW SW Sec. 31-12-19 ..... Location.
Sioux Oil Co.'s No. 1 Unknown, NW SE Sec. 21-11-19 .... Shut down 1,011 ft.
Cooper-Badget's No. 1 Young, NW NE NE Sec. 7-12-20e .. Shut down 50 ft.

NOBLE COUNTY

Peerless et al's No. 1 Wentz, NW SW Sec. 22-22-1 ..... Drlg. 2,825 ft.

OSAGE COUNTY

Lewis Prod. Co.'s No. 1, NW cor. Sec. 23-26-7 ..... Chat 2,662-76 ft.; dry and abandoned at 2,700 ft.

OKFUSKEE COUNTY

Henry Oil Co.'s No. 1 Harjo, Sec. 36-12-9 ..... Shut down 2,795 ft.
E. L. Robinson's No. 1 Rice, NW Sec. 2-10-9 ..... Location.
Shepard et al's No. 1 Neveas, SE NW SW Sec. 3-12-10 .. Drlg. 3,661 ft.

OKLAHOMA COUNTY

Magnolia and Ramsey's No. 1 Johnson, C NE SW Sec. 35-13-3w ..... Drlg. 2,150 ft.
Ryan & Martin's No. 1 Lawton, NE NW Sec. 3-11-2w .. Drlg. 3,320 ft.
Tom Slick Oil Co.'s No. 1 Martin, C NW NW Sec. 13-13-1w ..... Drlg. 6,382 ft.
Hall & Briscoe's No. 1 Holmes, NE cor. SW SE Sec. 10-11-3w ..... Fishing 4,750 ft.

PITTSBURG COUNTY

Mid-Western Oil Co.'s No. 1 Unknown, SE SW NE Sec. 11-7-18 ..... Drlg. 1,675 ft.
Empire O. & R. Co.'s No. 1 Williams, C NE SE Sec. 33-7-16e ..... Fishing 3,120 ft.
Kerr & Koy's No. 1 Hall, C NW NW Sec. 32-4-12 ..... Drlg. 3,300 ft.

PONTOTOC COUNTY

Indian Territory Illuminating Oil Co.'s No. 1 McFarland, NW cor. Sec. 4-5-5 ..... Wilcox 3,142-45 ft.; drlg. plug; water showing; plugged back to 2,700 ft.; ripped pipe 2,211-16 ft.; show oil.
Independent and Shaffer's No. 1 Moses, NE SE SW Sec. 10-5-4 ..... Wilcox 3,332-41 ft.; show water; plugging back.

POTTAWATOMIE COUNTY

Keister & Manning's No. 1 Rowlett, SW SE NE Sec. 30-8-4 ..... Spudding.
Payne Drlg. Co.'s No. 1 Bullock, SE NE Sec. 22-6-3 .... Drlg. 3,045 ft.
Lippa Drlg. Co.'s No. 1 Pittman, SW NW Sec. 3-8-4 .... Wilcox sand 4,456-77 ft.; water; abandoned.
Twin State's No. 1 Ray, NW SW Sec. 3-8-4 ..... Drlg. 4,110 ft.
Prairie O. & G. Co.'s No. 1 Bodkin, SW cor. Sec. 26-8-4 .. Drlg. 3,870-3,990 ft.; swabbed 110 bbls.
Keister & Manning's No. 1 Tibbs, NE SW Sec. 9-8-4 .... Wilcox sand 4,698-4,715 ft.; water; abandoned.

ROGER MILLS COUNTY

Bucy & Stone's No. 1 Williams, C SW Sec. 23-12-24w .... Rig.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w .... Shut down 1,800 ft.

SEMINOLE COUNTY

Magnolia's No. 1 Webster, NE SE NW Sec. 31-6-8 ..... Rig.
Prairie's No. 1 Mingo, SE NE Section 25-6-5 ..... Drlg. 3,590 ft.
Prairie O. & G. Co.'s No. 1 Harjo, NE SW NE Sec. 25-6-7 ..... Drlg. 2,940 ft.
Sunray Oil Co.'s No. 1 Sunday, NW SE Sec. 25-5-5 ..... Location.
Harris' No. 1 Harjoche, SE NE SE Sec. 8-6-6 ..... Wilcox 4,047-52 ft.; plugged back to 2,950 ft.; ripped csg. 2,860-65 ft.; flowed 307 bbls.; completed.

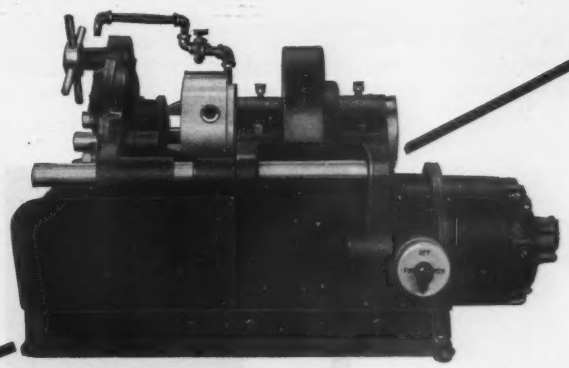
SEQUOYAH COUNTY

Hunt and others' No. 1 Unknown, SE cor. NW SW Sec. 12-12-22 ..... Shut down 1,260 ft.
Buffington and others' No. 1 Melcher, C SW NW Sec. 31-12-24 ..... Shut down 3,000 ft.

WOODS COUNTY

Peerless O. & G. Co.'s No. 1 Unknown, C NW NE Sec. 23-28-16w ..... Drlg. 1,300 ft.
S. K. Miller's No. 1 Copenhavers, NW cor. NW Sec. 18-24-13w ..... Rigged up and shut down.

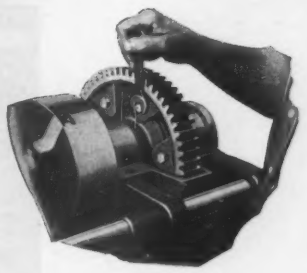
(Continued on Page 104)



A Sensational Pipe Machine

To Thread ½" to 2" Pipe

The new "TOLEDO" No. 999 is light and compact, easily carried by two men, yet it is sturdily built and will give years and years of satisfactory service. Note the friction gear, shown in the illustration. This safety device eliminates any possibility of ruining the inside gearing, easily adjusted by tightening six small cap screws.



The entire operation of the machine is governed by the switch, no gears to shift or levers to change. The Universal motor is a variable speed. The separate die head for each size of dies makes change almost instantaneous. Dies can be easily reground when dull.

Net Price Comp. $275.00
(West of Rockies $288.75)
F. O. B. TOLEDO

THE TOLEDO PIPE THREADING MACHINE CO. TOLEDO, OHIO

NEW YORK OFFICE: 72 LAFAYETTE ST.

FILL OUT AND MAIL COUPON FOR FULL INFORMATION ON THIS SENSATIONAL MACHINE

TELL ME MORE ABOUT THE "TOLEDO" NO. 999

NAME .....
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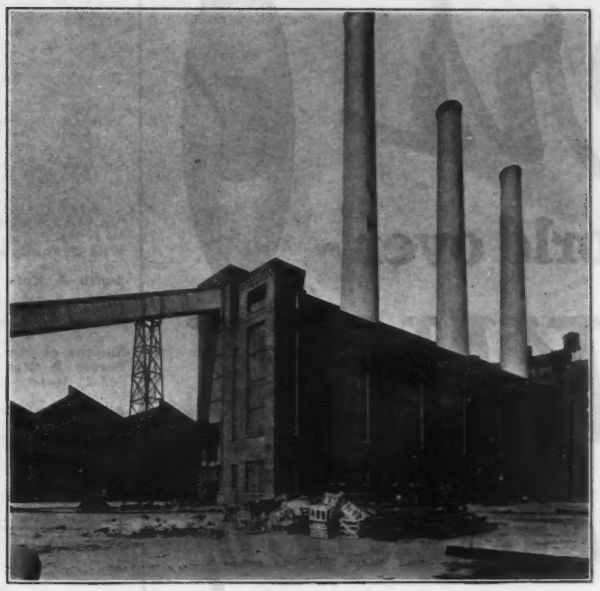
CHROME NICKEL IRON CAST PIPE

★ Chrome Nickel Iron

AVAILABLE IN 1½" — 2" — 2½" — 3" — 4" — 5" AND 6" SIZES
CAN BE CUT AND THREADED ON THE JOB WITH HAND OR POWER TOOLS

Walworth C. N. I. Pipe



combats corrosion on char filter wash water lines in the National Sugar Refining Co. plant

This line from the char filters carries wash water which is used to quench the ashes as they fall into the hoppers.

PRACTICAL proof of the real value of Walworth C. N. I. Pipe on lines subject to corrosion has been shown by this installation in the plant of the National Sugar Refining Company at Long Island City, New York.

The interior view is of part of a run of 6-inch C. N. I. Pipe on an 800-foot line carrying wash water which contains corrosive elements that make the life of ordinary pipe extremely short.

The fine grain structure of this chrome-nickel-iron pipe greatly increases its resistance to both corrosion and erosion.

Walworth C. N. I. Pipe is regularly made up with threaded ends for screwed coupling, grooved ends for victaulic couplings and beveled ends for field welding.

Ask either our Engineering Products Division or any Walworth jobber for further information.

RE-QUEST BLANK

Engineering Products Division
Walworth Company
51 East 42nd St., New York

Please send me information about C. N. I. Pipe. I am interested in pipe for the following service_____

_____

in these sizes_____

Name _____

Company _____

Address _____

WALWORTH

Walworth Company, General Sales Offices: 51 East 42nd St., New York
Plants at Boston, Mass.; Kewanee, Ill.; Greensburg, Pa., and Attalla, Ala.
Walworth Company Limited, 620 Cathcart St., Montreal, P. Q.
Walworth International Co., 11 Broadway, New York, Foreign Representative
. . . Distributors in Principal Cities of the World . . .

Users the world over — KNOW the VALUE of THE LAYNE More Production MILLED GROOVE SCREEN.

Large and important oil companies abroad and in this country indorse the exclusive *Layne Milled Groove* screen.

They are users of this *greater production* screen and testify that it surpasses all production claims originally made by *Layne*.

The *Milled Groove* greatly enlarges the inlet area of the screen and production thereby is tremendously increased. Yet, the screen is not weakened either for tensile or collapsing strength.

Milled Groove is a tonic to low pressure wells, does not clog with mud or sand, and is the culmination of more than a quarter century's experience and development.

It is economy to install *Layne Milled Groove* now instead of later!

The Layne & Bowler Co.

Houston THE LAYNE Texas

Increases Production

The Layne New York Co. 30 Church St., New York

The Layne & Bowler Corp. Los Angeles, Cal.

Vickers, Limited London, England

LEADERSHIP IN SCREEN MANUFACTURE FOR MORE THAN A QUARTER CENTURY

Gypsy-Prairie and others' No. 1 Thompson, SE cor. SW Sec. 10-25-15w ..... Drlg. 6,023 ft.
Sinclair Oil & Gas Co.'s No. 1 Showwalter, C SW SW Sec. 33-27-16w ..... Drlg. 5,804 ft.

WOODWARD COUNTY

Farrond et al's No. 1 Unknown, SE cor. SW SE Sec. 2-23-17w ..... Shut down 1,387 ft.
Prairie Oil & Gas and others' No. 1 Wilber, NE cor. NW Sec. 23-23-17w ..... Drlg. 5,900 ft.
Billy's Oil Co.'s No. 1 Watt, C SE Sec. 9-23-20w ..... Fishing 4,967 ft.
Burgoyne Bros.' No. 1 Merkins, SW cor. SE NE Sec. 15-21-19w ..... Shut down 1,910 ft.

SOUTHERN OKLAHOMA

ATOKA COUNTY

J. W. Ernest, Sec. 1-1-14 ..... Shut down 800 ft.
Bryant-Croxton's No. 1 Mason, NW NE NW Sec. 4-1s-14. Drlg. 600 ft.
Bookshire's No. 1 Guinn, NW cor. Sec. 18-3s-10 ..... Drlg. 100 ft.

BRYAN COUNTY

Marshall's No. 2 fee, C SW SE NW Sec. 26-5s-7 ..... Shut down; 6-in. csg. 265 ft.
Yale Oil Syndicate's No. 1 Craige, C NW NE Sec. 36-9s-9e ..... Underreaming 6-in. csg. 1,890 ft.

CARTER COUNTY

Campen-Lasater Co.'s No. 1 Anderson, NE cor. SE NE SE Sec. 32-4s-2 ..... Shut down 1,500 ft.

CHOCTAW COUNTY

Choctaw Petroleum Co.'s No. 1 Wilson, SW cor. SW Sec. 15-6-19e ..... Shut down 1,346 ft.

COTTON COUNTY

Wirt Franklin's No. 1 Bandy, NW cor. Sec. 4-4s-10w .... Drlg. 3,392 ft.

JOHNSTON COUNTY

Smith & Knisely's No. 1 Lane, E half Sec. 29-1s-7..... Shut down 2,254 ft.

McCURTAIN COUNTY

Utopia Pet. Co.'s No. 1 Unknown, SE NW Sec. 14-9s-25.. Location.
Milton et al's No. 1 Vase, SW NW Sec. 26-6s-21 ..... Shut down 1,490 ft.

STEPHENS COUNTY

Smythe et al's No. 1 Johnson, NE cor. Sec. 30-2-8w .... Shut down 25 ft.
Porter & Monahan's No. 1 Robberson, SE NW Sec. 23-3s-4w ..... Reaming 3,513 ft.

TILLMAN COUNTY

Allen Bros.' No. 1 Howell, SW NE Sec. 13-1-17w ..... Shut down 610 ft.
Staley-Chenault's No. 1 Crane, NE SE Sec. 25-4s-14w .. Shut down 2,000 ft.
Nance et al's No. 1 Massie, NE NW Sec. 36-1S-6w .... Location.
Landfair and others' No. 1 Smith, SE SW SE Sec. 6-2s-16w ..... Shut down 2,535 ft.

OKLAHOMA PANHANDLE

Skaer's No. 1 Hitch, NW cor. Sec. 25-1-15e ..... Shut down 250 ft.

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless otherwise marked)

(Continued from Page 54)

Prairie's No. 1 Lachard, C NW SW NE Sec. 12-16-2 .... Spudding.
Hiatt & Durham's No. 1 Wendt, NW cor. Sec. 17-16-2 .. Spudding.
Kruger et al's No. 1 Diche, C NW NE NE Sec. 17-13-4 ..... Drlg. 2,095 ft.

DOUGLAS COUNTY

Jenkins & Scott's No. 1 Haden, SE NW Sec. 10-12-17 .... Drlg. 550 ft.

EDWARDS COUNTY

Skelly's No. 1 Johnson, NE SW Sec. 21-26-17w ..... Drlg. 2,200 ft.
Barnsdall Oil's No. 1 McCarty, NW NE Sec. 31-25-17w.. Spudding.
Dixie & Amerada's No. 1 McCarty, SW cor. Sec. 22-25-17w ..... Drlg. 1,400 ft.

ELK COUNTY

Empire and Arkansas Fuel's No. 1 Record, C NW NE SE Section 32-30-10 ..... Drlg. 760 ft.

ELLIS COUNTY

Streeter & Stearns' No. 1 Leiker, SW NE Sec. 26-13-20w. Shut down 1,290 ft.
Byrene et al's No. 1 Fisher, NW SE Sec. 4-11-20w .... Shut down 1,000 ft.
Rush Oil Co.'s No. 1 Gatewood, NW cor. NW Sec. 4-15-20w ..... Fishing 2,555 ft.

ELLSWORTH COUNTY

Tatlock et al's No. 1 Sackem, C SW SE Sec. 25-17-9w .. Shut down 675 ft.
The Texas Company's No. 1 Sherman, NE SW Sec. 16-17-6w ..... Drlg. 3,920 ft.

FORD COUNTY

McNabb et al's No. 1 Unknown, C SE Sec. 26-27-22w.... Shut down 400 ft.
Swain et al's No. 1 Kenthorne, C NW Sec. 21-25-24w .. Shut down 390 ft.

GRAHAM COUNTY

Gulf Coast Oil Co.'s No. 1 Johnson, C S half Sec. 27-8-25w ..... Shut down 4,232 ft.
Naylor et al's No. 1 St. John, NW SE SE Sec. 27-8-25w.. Rig.

GREENWOOD COUNTY

F. Konkay et al's No. 1 Rock, NW NE NE Sec. 7-27-12 .. Drlg. 280 ft.

HARPER COUNTY

Boeler et al's No. 1 Bear, C NE Sec. 21-31-6w ..... Shut down 440 ft.
Tom Slick Oil Co.'s No. 1 Thompson, NW cor. Sec. 19-32-6w ..... Wilcox 4,975 ft.; abandoned 5,125 ft.; hole full water.

HARVEY COUNTY

Walton Oil Co.'s No. 1 Neiman, C NE SE Sec. 13-24-2 .. Shut down 3,365 ft.
Superior's No. 1 Regier, SE NW Sec. 11-22-3w ..... Drlg. 2,150 ft.
Independent & Reserve Oil Co.'s No. 1 Moulds, C NE Sec. 7-24-1w ..... Drlg. 3,675 ft.
Liggett et al's No. 1 Regier, C SE NW SE Sec. 2-23-3w.. Drlg. 3,142 ft.
E. W. Marland, Inc.'s No. 1 Neiman, C NE SE NE Sec. 8-24-2 ..... Drlg. 2,370 ft.
McCulloch et al's No. 1 Prouty, NW cor. SW Sec. 3-23-1w ..... Drlg. 3,260 ft.
Mrs. Gay et al's No. 1 Grove, C NW NE NW Sec. 29-23-1w ..... Shut down 3,360 ft.
Jolly & Ogg's No. 1 Randall, NE cor. NE Sec. 11-24-1w.. Shut down 3,444 ft.
Jolly & Ogg's No. 1 Hupp, SE cor. NE Sec. 22-23-1w .... Shut down 3,220 ft.

HODGEMAN COUNTY

Phillips Pet.'s No. 1 Hausman, NW NE Sec. 30-22-22w.. Cleaning out 4,415 ft.

JEFFERSON COUNTY

Wichita Oil Co.'s No. 1 Simpson, NW cor. SW SW Sec. 19-10-17 ..... Rigged up and shut down.

KINGMAN COUNTY

D. P. Fleeger's No. 1 Ashcraft, SE SW NE Sec. 16-28-7w ..... Drlg. 3,930 ft.
White Eagle's No. 1 Lorenz, C NE SW SE Sec. 25-27-5w. Drlg. 3,705 ft.

LANE COUNTY

Robinson's No. 1 Dickerson, Sec. 11-18-27w ..... 8-in. csg. 2,625 ft.
Blankenship Pet. Co.'s No. 1 Schaeffer, NE cor. NE Sec. 24-16-28w ..... Spudded and shut down.

LYON COUNTY

Gordan-Stats' No. 1 Proche, C NE SE NW Sec. 16-17-10.. Drlg. 1,200 ft.
Harry Mortock's No. 1 Dubolt, NW NE Sec. 24-20-1 .... Drlg. 2,068 ft.; abandoned.

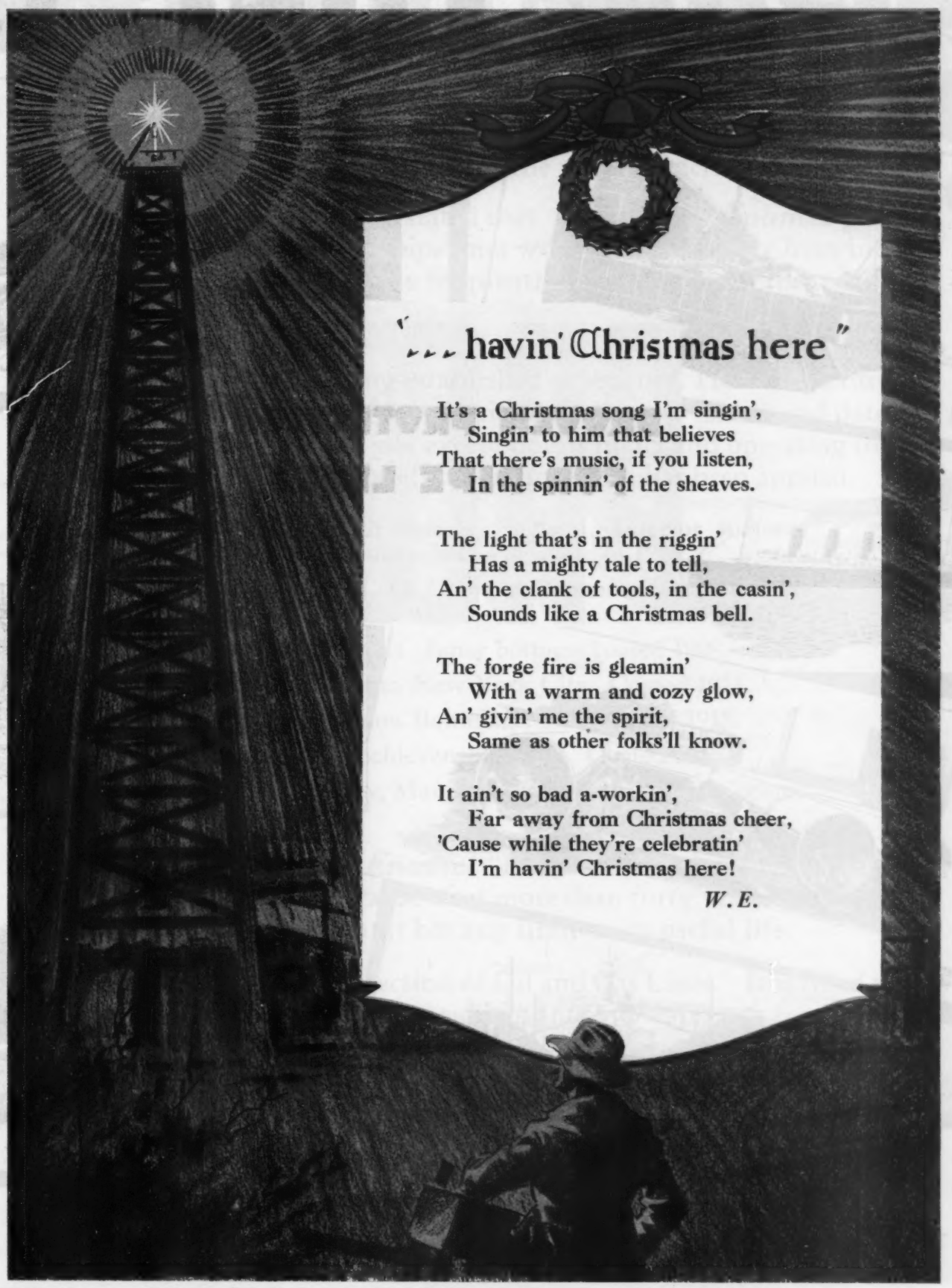
MARION COUNTY

Empire O. & R. Co.'s No. 1 Black, C NE NW SW Sec. 27-19-2 ..... Rig.
Marshall et al's No. 1 Higgins, NE cor. Sec. 33-19-5 .... Rig.
White Eagle's No. 1 Ucker, NE NW Sec. 24-17-2 ..... Drlg. 2,850 ft.

McPHERSON COUNTY

Dixie Oil Co.'s No. 1 Johnson, SW cor. Sec. 20-17-3w .. Spudding.
Harry Skelly et al's No. 1 Neufeldt, SE NE Sec. 19-21-3w. Location abandoned.
McCulloch Oil Co.'s No. 1 Cornelius, SW cor. Sec. 7-21-4.. Underreaming 6-in. csg. 3,058 ft.
Kansas Oil Co.'s No. 1 Otto, SW NW Sec. 21-20-1w .... Shut down 2,363 ft.
Reynolds et al's No. 1 Koohn, NE SE NE Sec. 15-20-2w .. Drlg. 2,670 ft.
McPherson O. & G. Co.'s No. 1 Fisk, SW NE NE Sec. 15-21-2w ..... Drlg. 3,170 ft.
McPherson O. & G. Co.'s No. 1 Sorenson, C SE Sec. 23-18-2w ..... Drlg. 3,225 ft.
Milmac's No. 1 Decker, NW cor. Sec. 11-20-3w ..... Fishing 1,500 ft.

(Continued on Page 108)



"... havin' Christmas here"

It's a Christmas song I'm singin',
Singin' to him that believes
That there's music, if you listen,
In the spinnin' of the sheaves.

The light that's in the riggin'
Has a mighty tale to tell,
An' the clank of tools, in the casin',
Sounds like a Christmas bell.

The forge fire is gleamin'
With a warm and cozy glow,
An' givin' me the spirit,
Same as other folks'll know.

It ain't so bad a-workin',
Far away from Christmas cheer,
'Cause while they're celebratin'
I'm havin' Christmas here!

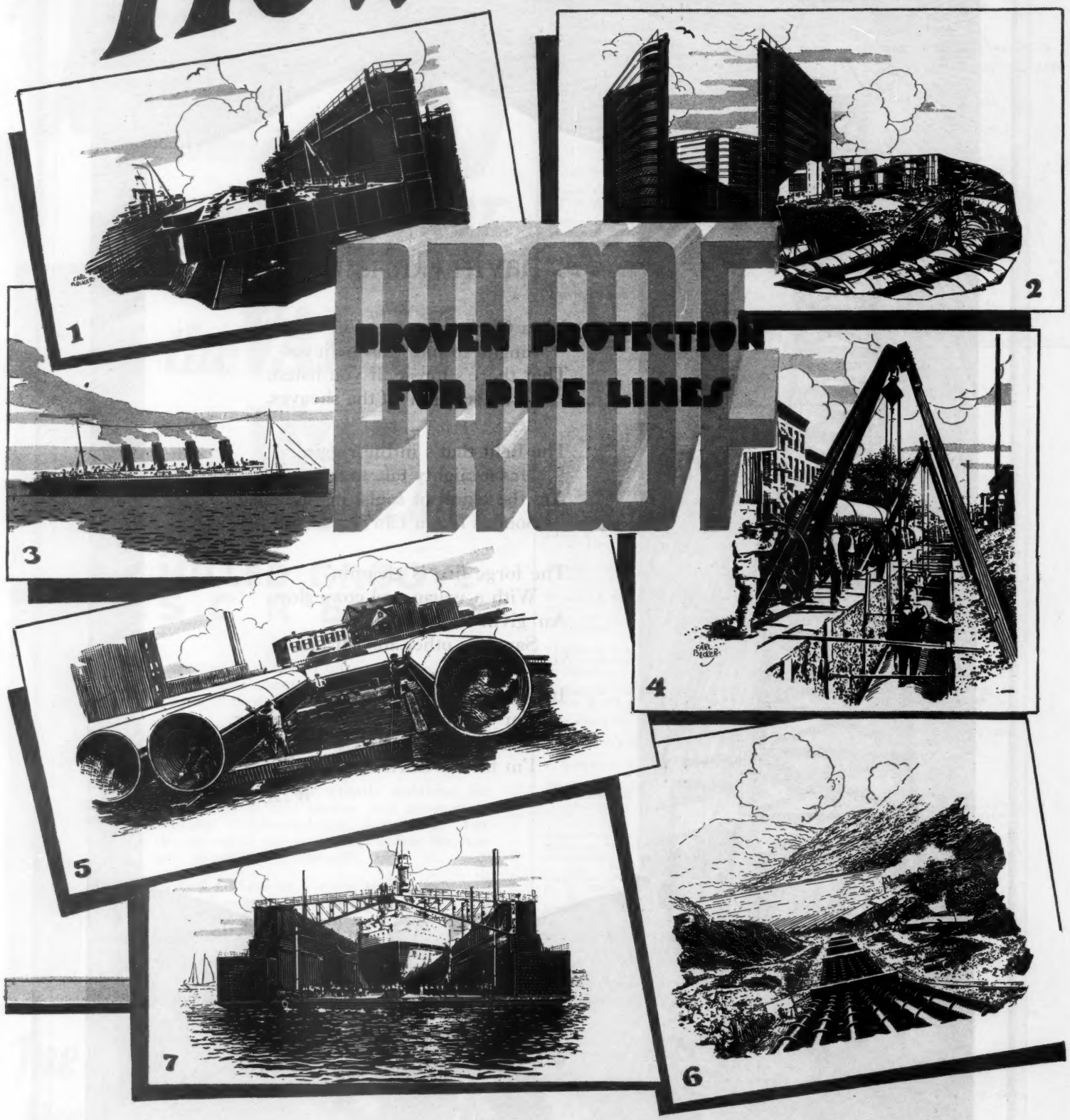
W. E.

GUIBERSON

BETTER BE SAFE THAN SORRY

How LONG IS PROOF

PROVEN PROTECTION FOR PIPE LINES



WAILES DOVE-HERMISTON CORPOR

Philtower

Philadelphia **Cleveland** **Chicago**

INDEFINITE?

It is a well-worn advertising phrase that expresses the idea of unusually long life by use of the word "indefinite".

Many times we have stated that ***Bitumastic Enamel*** when properly applied to pipe lines would "extend their lives indefinitely." The same claim has as frequently been made for other coatings.

How long is "Indefinite"?

Facts can be drawn from long established experience. Here are pictures of a few ***Bitumastic Enamel*** installations. Below are names and dates of original application. Every job, except one, is intact and operating today. No corrosion has occurred. No further protection has been applied.

1. Dry dock North Shields, England. Interior surfaces coated 1891. Dismantled as obsolete in 1926.
2. Penstocks and Lock Gates at Panama Canal. Coated 1914.
3. R.M.S. Mauretania. Inner bottoms coated 1908.
4. Steel Water Mains, New York City. Coated 1914.
5. Steel Water Mains, Baltimore, Md. Coated 1915.
6. Pipe lines, Kinlochleven, Scotland. Coated 1915.
7. Dry dock Dewey, Manila, P.I. Interior bottoms coated 1905.

As applied to ***Bitumastic Enamel*** "Indefinite" means that we simply do not know how long, because after more than forty years of experience there is nothing to show that it has any limit to its useful life.

Send for a copy of "The Protection of Oil and Gas Lines." It is filled with detailed information about corrosion and its avoidance.

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ENAMEL

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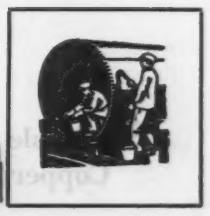


for Roofing *and* Siding Jobs

Here is a typical application of Granite City Sheets in the oil fields of Oklahoma.

Honest, high gradesteel, heavy, generous coatings—these qualities make Granite City sheets desirable and economical wherever a roofing or siding job is needed.

In addition there are important economies in delivery time and service when Granite City sheets are used; for our convenient mill location at Granite City, Ill., served by 28 railroads and the Mississippi River assures unusually prompt shipments to fabricators and jobbers in the Mississippi Valley, the West and the Southwest.

Tank Steel

Circles, semi-circles and plates in rust-resisting, corrosion-resisting copper bearing steel if desired. Three times the life of ordinary steel.

Chicago ▾ Dallas ▾ Kansas City ▾ Los Angeles
Memphis ▾ St. Louis ▾ St. Paul ▾ Seattle
San Francisco ▾ Salt Lake City

GRANITE CITY STEEL CO. GRANITE CITY ILLINOIS

Galvanized, Blue Annealed and Black Sheets - Plates and Tin Plate

Available in Regular or Copper Bearing Steel

SINCE GRANITE CITY SHEETS 1878

Perry et al's No. 1 Wade, C SE Sec. 20-19-4w .....Shut down 3,917 ft.
Transcontinental Oil Co.'s No. 1 Algers, NE SW Sec. 1-19-5w .....Drlg. 3,898 ft.

MORTON COUNTY

White & Chaney's No. 1 Love, NE cor. Sec. 16-34-42w...Abandoned.

MORRIS COUNTY

Arrow O. & G. Co.'s No. 1 Kinkle, C NW NE Sec. 8-16-7..Drlg. 940 ft.

NORTON COUNTY

Richards et al's No. 1 Colby, C SW Sec. 17-4-21w .....Rig on ground.

NESS COUNTY

Continental Oil Co.'s No. 1 Moses, NE SE Sec. 7-18-25w .....Drlg. 4,428-31 ft.; swabbed 185 bbls.; completed.

OSBORNE COUNTY

Phillips Pet. Co.'s No. 1 Grieve, NW SE NE Sec. 6-7-12w..Drlg. 3,702 ft.
Mid-Kansas' No. 1 Boyce, SE cor. NW Sec. 18-6-13w ....Drlg. 4,235 ft.

PAWNEE COUNTY

Prairie O. & G. Co.'s No. 1 Black, SW NE NE Sec. 11-20-18w .....Drlg. 1,140 ft.

PRATT COUNTY

O'Haver & Jones' No. 1 Garacke, C NE SW Sec. 7-26-14w .....Drlg. 2,555 ft.
O'Haver & Jones' No. 1 Lunt, C SW NW Sec. 15-28-14w..Shut down 4,743 ft.
Wilcox O. & G. Co.'s No. 1 Unknown, SW NW Sec. 7-26-15w .....Drlg. 1,250 ft.

RENO COUNTY

Empire O. & R. Co.'s No. 1 Blitz, NE NW Sec. 36-25-4w .....Drlg. 3,565 ft.
Wilcox O. & G. Co.'s No. 1 McPheeters, SW NW Sec. 23-26-8w .....Drlg. 2,900 ft.
Witt's No. 1 Olsen, C SE NW Sec. 14-22-6w .....Fishing 2,010 ft.
Skelly Oil Co.'s No. 1 Birkett, NE SW Sec. 30-24-7w ....Drlg. 4,120 ft.

RICE COUNTY

Tatlock et al's No. 1 Ploog, C SW SE, Sec. 33-18-9w ..Rig.
Boucher's No. 1 Bieg, Sec. 16-21-10w .....Drlg. 1,665 ft.
C. P. McBride's No. 1 Green, C NW Sec. 23-19-6w .....Abandoned.
Miller & Detrick's No. 1 Shumway, C SW Sec. 2-20-9w ..Shut down 3,100 ft.
Burgher's No. 1 Fair, C SE NE NE Sec. 14-21-10w ....Shut down 1,200 ft.
Derby Oil Co.'s No. 1 Johnson, C NW NE SE Sec. 24-20-6w .....Drlg. 1,600 ft.
Milmac's No. 1 Cain, C SE Sec. 29-19-7w .....Underreaming 3,595 ft.
Danciger et al's No. 1 Bell, C SW Sec. 16-19-8w .....Drlg. 1,695 ft.
McCullough et al's No. 1 Williams, C NE Sec. 35-20-8w..Rig.

RILEY COUNTY

Arkansas Fuel Oil Co.'s No. 1 Martin, SE NE SW Sec. 24-8-4 .....Drlg. 2,400 ft.
Grey et al's No. 1 Smith, NE SE Sec. 30-6-6 .....Shut down 1,970 ft.
Derby & Shaw's No. 1 Lindstrom, NE cor. Sec. 32-7-5e..Shut down 2,246 ft.

RUSSELL COUNTY

Cress & Hacke's No. 1 Unknown, SE cor. Sec. 6-13-12w..Rig on ground.

ROOKS COUNTY

Central Commercial's No. 1 Baxa, Sec. 22-9-17w .....Underreaming 8-in. csg. 2,985 ft.

RUSH COUNTY

Milmac's No. 1 Mohr, C NW Sec. 11-18-16w .....Shut down 50 ft.
Danciger Oil Ref. Co.'s No. 1 Pivonka, NE cor. SW NE Sec. 17-19-17w .....Drlg. 4,130 ft.

SALINE COUNTY

Dixie Oil Co.'s No. 1 Thorstenburg, NW NE Sec. 10-16-3w .....Total depth 3,602 ft.; plug back to 3,490 ft.; no production; abandoned.
Austin et al's No. 1 Olsen, NW SW SE Sec. 10-15-4w ....Drlg. 3,600 ft.
Templeman's No. 1 Lanbengager, C SW Sec. 20-15-5w ..Drlg. 3,440 ft.
Twin Mounds' No. 1 Weis, NW NE NW Sec. 20-13-4w..Shut down 700 ft.

SEDGWICK COUNTY

Moore's No. 1 Stewart, C NE SE NW Sec. 18-28-1w ....Underreaming 3,275 ft.
Tavender et al's No. 1 McLean, SE SW SE Sec. 23-26-1w .....Rig.
Wilson et al's No. 1 Ottaway, SW NW Sec. 16-28-2w ....Rig.
Marland and Amerada's No. 1 Sensorth, NW cor. Sec. 25-28-4w .....Fishing 3,820 ft.
Barnett O. & G. Co.'s No. 1 Davidson, NW cor. NW SW Sec. 27-26-1e .....Abandoned 3,505 ft.
McCullough Oil Co.'s No. 1 Buckles, NW cor. SE Sec. 3-28-1w .....Fishing 1,115 ft.
LaFont et al's No. 1 Carlton, C SE SE SW Sec. 24-28-1e..Shut down 1,385 ft.

SHAWNEE COUNTY

Jenkins & Scott's No. 1 Sherman, NW NE Sec. 28-10-15 .....Drlg. 825 ft.
Jenkins & Scott's No. 1 Haden, NE SE Sec. 8-12-14 ....Shut down 750 ft.

SHERIDAN COUNTY

Mandalin O. & G. Co.'s No. 1 Unknown, C SE SW SW Sec. 27-7-26w .....Spudded; shut down.

STAFFORD COUNTY

Gibson's No. 1 Mueller, C SW Sec. 11-23-14w .....Drlg. 2,190 ft.

STEVENS COUNTY

McKenna's No. 1 Unknown, C NW NW Sec. 29-33-36w..Underreaming 8-in. csg. 2,225 ft.
Trees Oil Co.'s No. 1 Thompson, C NE SW Sec. 3-35-38w..Shut down 2,250 ft.
W. Sidwell et al's No. 1 Kelly, SW cor. NE Sec. 16-34-38w .....Shut down 1,600 ft.

SMITH COUNTY

Phillips Pet.'s No. 1 Clydesdale, SE NW Sec. 23-5-14w..Drlg. 3,540 ft.

SUMNER COUNTY

Hatfield's No. 1 Dauber, NE cor. Sec. 18-30-1w .....Shut down 50 ft.
Kingwood Oil Co.'s No. 1 Stayton, C NE Sec. 18-31-2w..Drlg. 3,412 ft.
Slick et al's No. 1 Peasel, NW cor. Sec. 33-31-1w .....Chat 3,651-56 ft.; est. 250 bbls.
Lario O. & G. Co.'s No. 1 Osborne, NE SE Sec. 21-30-1w .....Fishing 3,300 ft.
E. K. Carey & Larado Oil Co.'s No. 1 Welsch, SW SE Sec. 9-34-1e .....Chat 3,625-40 ft.; dry; fishing 3,-655 ft.
Shell Pet. Corp.'s No. 1 Armstrong, NE cor. Sec. 12-33-1e.Drlg. chat 3,400-57 ft.; show oil; underreaming 6-in. csg.; total depth 3,530 ft.
Davidson et al's No. 1 Strickland, SW cor. SE Sec. 12-35-1w .....Rig.

TREGO COUNTY

Dixie & Amerada's No. 1 Reitmayer, C NE NE Sec. 19-14-21w .....Shut down 825 ft.
Prairie Oil & Gas Co.'s No. 1 Kutina, C NE SW NE Sec. 29-15-21w .....Cleaning out 3,340 ft.
Producers & Refiners Corp.'s No. 1 Kingsley, C SE NW NW Sec. 24-14-21w .....Drlg. 3,265 ft.
Phillips Pet. Co.'s No. 1 Spitz, SE cor. Sec. 24-12-25w ..Drlg. 3,770 ft.
Mid-Kansas' No. 1 Ridgeway, NE SW Sec. 28-12-21w ....Abandoned 4,274 ft.
Day et al's No. 1 Gugler, SW NE NE Sec. 36-12-21w ....Shut down 50 ft.
Day et al's No. 1 Unknown, NE NW SW Sec. 2-11-21w ..Shut down 3,250 ft.

WASHINGTON COUNTY

McCool & Vincent's No. 1 Linn, NW cor. NE Sec. 27-4-3..Shut down 3,100 ft.

WILDCAT OPERATIONS IN NEBRASKA

FRANKLIN COUNTY

U. R. Drlg. Co.'s No. 1 Brunkle (twin well), C NW SW NE Sec. 2-3n-13w .....Rig.

CHASE COUNTY

Chase Pet. Co.'s No. 1 Ingold, C NE Sec. 24-6n-38w ....Shut down 4,200 ft.; will run 5-in. csg.

FURNAS COUNTY

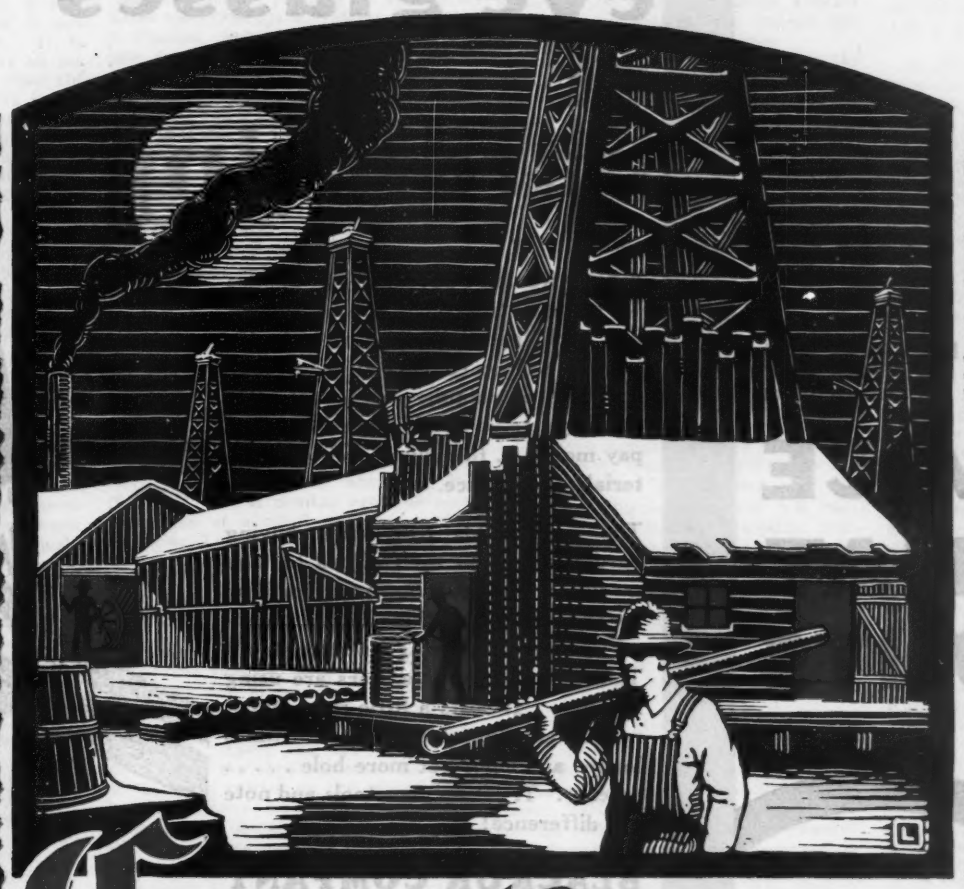
Southwestern Pet. Corp. of Nebraska's No. 1 Montague, SE SW SW Sec. 28-1n-22w .....Shut down 1,750 ft.
Graham Bros.' No. 1 Edwards, NW SW Sec. 13-2n-22w..Shut down 3,250 ft.

RICHARDSON COUNTY

Norton et al's No. 1 Hauser, NE cor. Sec. 26-1-14 .....Location.

WEBSTER COUNTY

Mid-Kansas Exploration Co.'s No. 1 Platt, C SE one-half Sec. 3-1n-11w .....Shut down 555 ft.



Greetings
OF THE SEASON

May the Yule-Tide bring you the fulfillment of your every wish

---and for 1930, may you be able to overcome any obstacle which stands in your way, as you go deeper and deeper in Mother Earth

---may "Dry-Hole" where you are concerned, be words that are cast into the limbo of oblivion and darkness, is our wish for you.

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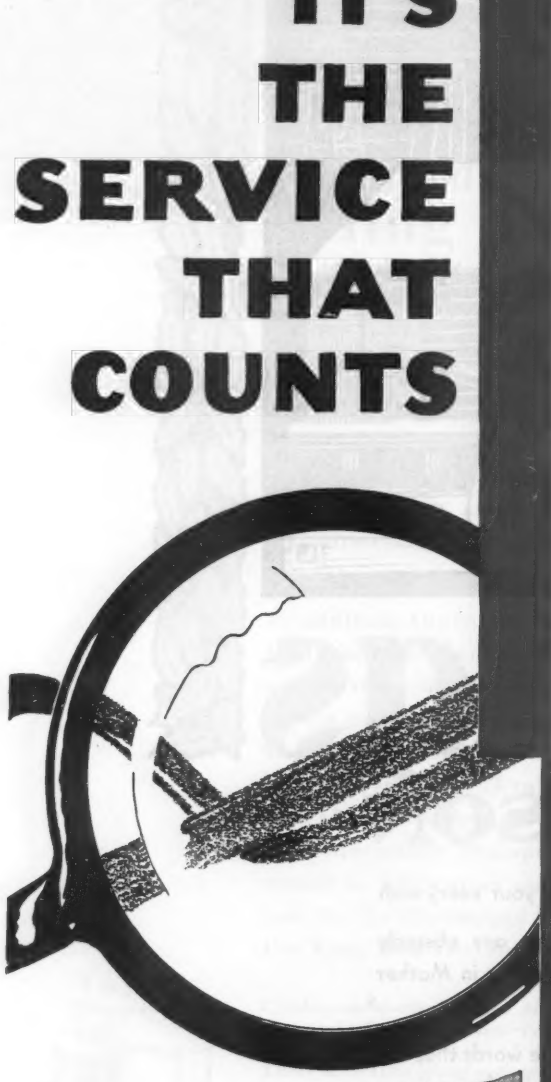

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CALIFORNIA FIELDS

(Continued from Page 66)

7,039 feet, the hole having been finished with a 4¾-inch combination string cemented through perforations at 6,411 feet. Callahan & Woods failed to get a natural flow in No. 1 Chandler, a new well finished at 7,000 feet, and it was accordingly put on the beam. It is pumping 230 bbls. of 24.3 gravity oil per day at the present time. The Shell Oil Co. heads the production list with a current daily output of 24,000 bbls., followed by the Richfield with 10,000 bbls. daily, Dabney & Johnston with 9,000 bbls., The Texas Company with 8,500 bbls., Union with 2,500 bbls. and General Petroleum with 1,200 bbls.

Potrero

Development work in the town lot section of the Potrero Field is beginning to reflect the unsatisfactory outcome of drilling operations and it would not be surprising if a general suspension of work took place in this area in the near future. The shallow zone has failed miserably to respond to development work due to there not being sufficient thickness of oil sand to maintain consistent production. Deeper drilling may change the aspect but present production certainly does not justify any further expenditures. The Associated was forced to put its No. 2 Prairie on a compressor at 3,844 feet and this new well is making 40 bbls. daily from 26 feet of formation. The output tests 39.6 degrees and shows a cut of 9 per cent. George F. Getty's No. 1 Potrero, completed several months ago, is pumping 56 bbls. of 46.1 gravity oil cutting 60 per cent water. This well flowed for several weeks subsequent to completion but suddenly went to water when York & Lockhart's No. 1 Blinn was finished at 3,855 feet. The latter project, also completed several months ago, is making 160 bbls. of crude oil per day cutting 40 per cent water. No. 2 on the same property swabbed wet a few days ago at 3,805 feet and another cement job will be necessary.

In the Huntington Beach Field, the Huntington Signal Oil Co. has recompleted its No. 1 Extension after redrilling and deepening it to 4,644 feet, from which depth it is pumping 104 bbls. of 19.6 gravity oil cutting 20 per cent. The Texas Holding Co. is listing No. 5 Huntington, a new well, for completion as a 100-bbl. pumper from 4,855 feet. This well was originally spudded in for a deep test but was subsequently plugged back after reaching a depth of 5,211 feet, due to the possibility of precipitating an intensive development campaign if it had been successful in finding a new productive horizon. The next well scheduled for completion at Huntington Beach is the West American Oil Co.'s No. 1, which is in the oil sand at 4,800 feet. The Associated Oil Co. killed No. 3 De Francis, a recent completion in the Dominguez Field of Los Angeles basin, to reinforce the plug put on bottom. This project drilled into bottom water at 5,111 feet and a subsequent production test indicated the probability of a defective plug at 4,520 feet.

LA.-ARK. FIELDS

(Continued from Page 58)

Blossom at 2,214 feet but failed to find pay and is drilling at 2,783 feet. Eylers Oil & Gas Co.'s No. 4 Chaffraix, Section 30-12-10, Red River Parish, about 3 miles south of old Bull Bayou production, got salt water at 2,800 feet and was abandoned. Its No. 1 Chaffraix, in the same section, gauged 8,460,000 feet of gas at 2,660 feet. Benedum and Trees Oil Co.'s No. 1 Franklin Realty Co., Section 29-11-9, drilled to 3,745 feet and is plugging back to 2,960 feet to test a show of gas estimated at 1,000,000 feet at around that level.

Magnolia Petroleum Co.'s deep test in Cotton Valley, No. 1 McCook & Hibbler, Section 22-21-10, which was the center of interest until the Zwolle gusher came in, got 12 joints of water and 88 of mud from 6,975 feet. It had cored 9 feet of saturated sand from 6,949-58 feet but collapsed casing and a bad cementing job spoiled chances of a well at that level.

Smackover

The shallow play in Smackover resulted in four completions. J. E. Crosbie's No. 4 Primm, Section 23-15-16, Ouachita County, pumping 25 bbls. from 2,040 feet; Phillips Petroleum Co.'s No. 3 Clayton, Section 34-15-15, made 25 bbls. from 2,030 feet, and Skelly Oil Co.'s No. 5 Woods, Section 34-15-15, was a salt water hole at 2,070 feet. Foster and others abandoned No. 1 Spahr, Section 35-15-16, Union County, without drilling the location, and A. J. Woodley decided not to drill No. 1 First National Bank in Section 34-19-18. Wesson and others' No. 1 Booth, Section 12-15-19, Ouachita County, was abandoned at 2,203 feet.

Three wells in the Bethany gas district of Panola County, Texas, were small gassers, under 1,000,000 feet. Arkansas-Louisiana Pipe Line Co.'s No. 8 Werner, in the James Matthews Survey, made 250,000 feet total depth 977 feet; Nemours Corp.'s No. 6 Tiller, in the W. D. Matthews Survey, gauged 900,000 feet total depth 2,320 feet, and D. Thomason's No. 4 Trosper, in the Jane Thorpe Survey, measured 800,000 feet from 2,374 feet. Gulf Refining Co. abandoned its first test several months ago following completion of a small producer on the Pickering Lumber Co.'s land in Shelby County. This well, No. 2 Pickering, in the G. H. Patterson Survey, was abandoned at 3,560 feet.

MISSISSIPPI

Mississippi developments have been rather lost sight of in the recent excitement over the Magnolia's deep well in Cotton Valley and the increasing activity in Sabine Parish that led to the big well at Zwolle. There has not been much going on in the Magnolia state, as most of the wells carried on the report have been shut down for one reason or another during most of this time, while others have been engaged in long fishing jobs. Lauderdale Oil & Gas Co. got a drill collar and bit out of No. 1 Lackey, Section 2-7-16, Lauderdale County, and is reaming to set casing at around 2,790 feet for a test expected to be made immediately after Christmas. Several changes appear in other wells on the report this week but none of particular moment or that is apt to start a new rush to Mississippi such as took place last spring. Southern Christian Institute's No. 1 Fee, Section 29-6-4, Hinds County, was finished sometime ago as a fresh water well at 1,680 feet.

The new administration in the minerals division of the State Conservation Department has not announced any changes so far, though several have been made.

Crude Production

Daily average production of the various pools in this territory during the last week follows:

LOUISIANA	
Caddo, light	10,595
Caddo, heavy	2,830
Homer	4,000
Haynesville	4,730
De Soto-Red River	3,535
Elm Grove	540
Bellevue	620
Cotton Valley	2,300
Urania	5,530
Pleasant Hill	835
Sarepta	550
Zwolle	3,550
Total	39,615
ARKANSAS	
El Dorado	4,360
Smackover, light	5,750
Smackover, heavy	43,230
Stephens	1,030
Nevada County	1,200
Lisbon	1,120
Champagnolle	5,750
Bradley	85
Total	62,525
Both States	102,140
Last week	101,390
Increase	750

MICHIGAN FIELDS

(Continued from Page 64)

proven Mount Pleasant Field in the general direction of the McKay-Mercier well. The McKay well struck a flow of dry gas in the Marshall at a reported depth of 1,400 feet some time ago. Its exact location is NE NW, Section 6-17n-4w, Grant Township, Claire County. The McKay well has been capped and a permit has been taken for the drilling of No. 2 McKay, NE NW NW, Section 6-17n-4w, also Grant Township. Another Clare County wildcat was started last week near the village of Clare.

Five new wells completed during the week in the proven Mount Pleasant Field all by the Pure Oil Co. added 510 bbls. initial production. Two dry holes are being plugged.

All five completions are in Chippewa Township, Isabella County. The largest is No. 3-A Glen M. Reem, SW SE, Section 12-14n-3w, which made about 200 bbls. initial from the Dundee. The bottom is at 3,590 feet. The second largest was No. 4-B Reem, NW SE, Section 12-14-3, Chippewa Township, which made 150 bbls. initial in the Dundee at 3,569 feet. The hole is 3,580 feet deep. No. 6-A Reem made 40 bbls. initial and was drilled to 3,590 feet. It is located in the SE SE, Section 12-14-3. No. 2-B Reem, NE SE, Section 12-14-3, was good for 20 bbls. at 3,567-81 feet.

The Pure company's No. 8 W. D. Gibson, SE NW, Section 12-14-3, made 100 bbls. initial flow at 3,555 feet.

No. 1 McClintic-Hood, NW NE, Section 29-15n-2w, Geneva Township, Midland County, was abandoned by J. O. Spracklin at 3,677 feet. The E. Brown Development Co.'s No. 1 J. Brown, NE NE, Section 3-14-3, Chippewa Township, Isabella County, is being plugged back to the Traverse at about 3,150 feet where it may be completed as a 50 to 75-bbl. producer. It was dry in the Dundee at 3,643 feet.

Central Michigan Wildcats

The New York Petroleum Royalty Corp., which is drilling a wildcat in Denver Township, Isabella County, has purchased 100,000 acres of leases checkerboarded within the Clare-Mount Pleasant district and is establishing headquarters at Mount Pleasant. The first well is No. 1 Quincy L. Hughes, NE NE, Section 19-15-3, Denver Township. It is drilling near the Marshall.

The Ionia-Montcalm Development Co.'s No. 1 A. A. Herrick well, NE NE, Section 14-15-9, Bushell Township, Montcalm County, is drilling in the lower Traverse at 2,915 feet. It is to be carried to the Dundee.

The St. Clair Oil & Gas Co.'s No. 1 on the O. L. Hubbard lease, SW NE, Section 14-2s-6w, Marshall Township, Calhoun County, near the city of Marshall, is drilling at 1,700 feet at the rate of 150 feet a day. Operators are expecting possible pay at about 2,000 feet deep.

The only drilling wildcat in Muskegon County outside Muskegon and Laketon Townships, was dry at 2,250 feet. The well is Buchanan and Frye's No. 1, on the Fruitvale Resort lease, SW SE, Section 6-12n-16w, Blue Lake Township. A show of oil and gas was struck a week ago at 2,232-34 feet but the well drilled into bottom salt water.

Western Michigan

Western Michigan's most promising wildcat on the C. E. Moe lease of the Michigan Petroleum Co. near Ravenna, Ottawa County, is drilling in the Utica shale above the Trenton limestone, more than 4,900 feet deep. A flow of gas estimated at 250,000 feet continues undiminished. The gas was struck in the Cincinnati series above the Utica shale.

The well is about 2 miles east of Ravenna, SE SE, Section 6-9n-13w, Chester Township, Ottawa County.

The other deep test is the Wright Oil Co.'s No. 1 Joseph Kluting, SW NW, Section 10-8-13, Wright Township, near Conklin and about 6 miles southeast of the Michigan-Moe well. It is drilling at nearly the same depth but is lower on structure.

A fair show of gas was struck at 1,630 feet in the upper Traverse in Edward DuVall's No. 1 Schultz, NW NW, Section 12-15n-18w, Golden Township, Oceana County.

ROCKY MOUNTAIN AREA

(Continued from Page 63)

Section 18-19-26, northwest of Lakewood, is drilling at 150 feet, and Flynn, Welch & Yates' No. 57 State, NE cor. SE, Section 19-19-28, south of the Artesia Pool, is shut down at 425 feet in gypsum to drill a water well.

Around the State

In Chaves County, the Cactus Petroleum Co.'s No. 1 State, SE cor., Section 14-10-26, is drilling at 1,755 feet in shale. The top of the salt was at 405 feet and the base at 1,688 feet. The elevation is 3,748 feet.

In Otero County, C. H. McCurdy and others' No. 1 Donahue, SE NE, Section 28-24-15, is rigging up.

In Rio Arriba County, Jarvis, Bennett and others' No. 1, C NE SW, Section 8-31n-1w, Monero structure, is shut down at 2,450 feet, 60 feet in the Dakota, which showed no water and a slight trace of oil.

In Valencia County, Thomas B. Harlan and others' No. 1 Harlan, Section 5-6n-2e, is drilling at 2,565 feet with a show of gas.

In Torrance County, the Gary Oil Co.'s No. 1 State, Section 16-8n-10e, is drilling at 1,310 feet after drilling through a crevice.

In Hidalgo County, Phillips, Owenby and others' No. 1 State, Section 14-22s-20w, set the 8¼-inch at 2,010 feet. It is bottomed in anhydrite.

In San Juan County, the Dorothy Oil Co.'s No. 2 Goede, SE, Section 29-30-9, Blanco district, is bottomed at 1,000 feet and underreaming the 8¼-inch. The Southern Union Gas Co., which is completing a natural gas system from the Kutz Canon district to Farmington, is moving in a rotary rig to drill in that area.

COLORADO

Colorado reported two completions this week, and several new locations for important tests. Several operations have been shut down for the winter. The Texas Production Co.'s No. 3 Carstarphen, SW NE NW, Section 5-6n-86, on the Tow Creek structure in Routt County, was completed in the Mancos shale at 3,595 feet and made 122 bbls. on the pump the first 13 hours. This is a much better well than No. 2 Irwin-Carstarphen, which it offsets and which made 80 bbls. initial when completed at 3,435 feet in 1928. F. Haller and others' No. 1, NW SW, Section 14-36n-14w, Mancos Divide, Montezuma County, in the southwestern part of the state, was abandoned at 350 feet, it being disclosed at that depth that it was off structure.

First Test on Bell Rock

The Midwest Refining Co. is building rig for its No. 24 Hannewalt, on the Bell Rock structure, 8 miles southwest of Craig, in Moffat County, and 5 miles northwest of the Moffat Dome. The location is in the NE SE SE of the section, being 330 feet from the east line and 987 feet from the south line. This structure is a high on the Williams Fork anticline and, according to Julian D. Sears in Bulletin 751-G of the United States Geological Survey, has a probable closure of 400 feet and exposes at its crest several hundred feet of the Williams Park formation of the upper Mesaverde. The structure has been known for a number of years, but has never been drilled. The Morapas sandstone, which forms the escarpment around the Iles and Moffat Domes, is expected at around 4,000 feet. The Dakota, which is the first productive horizon in the Moffat Pool, probably lies below 6,500 feet.

Test on Chromo Dome

Another important wildcat is to be drilled on the Chromo Dome in Archuleta County, near the New Mexico line, by the Standard Oil Co. of Colorado. The structure lies 22 miles to the southeast of Pagosa Springs. The company has 18,000 acres in the block and will drill at least to the Sundance horizon and possibly to the Pennsylvanian. The location for the test is the NE NW SW, Section 34-33n-1e, on the C. C. Fitzhugh land. Standard rig used in drilling a

well near the town of Hooper is being moved to location. H. L. Oliver did the geological work. The structure has a dip of approximately 45° on the east and northeast, while on the west and south the dips are more gentle and afford a very large drainage area. A shallow well drilled several years ago, which was off structure according to the Oliver geology, is still making some gas.

In Moffat County, in the northwestern part of the state, Thomas McLaughlin and others' No. 1 Williams, SW NW SW, Section 2-3n-29, in the fault block between the Iles and Thornburg Domes, is bottomed at 4,280 feet (cor. tape line measurement) with the 4¾-inch cemented on bottom. Bailing to test is in progress and if a complete shutoff has been secured, drilling will be resumed at once. The hole is estimated to be from 10 to 60 feet off the Sundance, the objective horizon. The Texas Production Co.'s No. 12 Knowlton, SW SE, Section 33-5n-91, Moffat Dome, is digging cellar, and the same company's No. 1 Berlin, SW NE, Section 19-12-100, Bartram Dome, is drilling at 2,160 feet.

Deep Test in Rio Blanco

In Rio Blanco County, the Texas Production Co.'s No. 1 Potter, C NE SW, Section 30-2n-96, White River structure, is drilling at 5,578 feet. It was decided at a recent conference to continue this test on down through the Lewis shales which are considered more favorable for the accummulation of oil than the Wasatch which already has been drilled. The White Eagle Oil & Refining Co.'s No. 1-A Fordham, NW SW, Section 9-2s-96, Piceance Creek, has rerun the 8¼-inch to 2,800 feet, 15 feet off bottom and is about ready to begin making hole for the first time since the rig was destroyed by fire.

In Jackson County, the Producers & Refiners Corp.'s No. 1 Hendershot, SE NE, Section 2-6n-81, Pole Mountain area, is shut down at 3,610 feet and will not resume until spring. The weather in that district becomes extremely cold during the winter months. The Midwest Refining Co.'s No. 21-X Rich, SW NW, Section 9-6n-80, Buffalo Creek, is still operating but may close down shortly. It is bottomed at 3,365 feet with the 8⅝-inch at 3,336 feet.

In Larimer County, the Continental Oil Co.'s No. 4 Scott, NE SE, Section 6-9n-68, Wellington Dome, is bottomed at 4,410 feet in the Muddy sand and swabbing oil with some water. It is preparing to drill deeper. The Standard Oil Co. of Colorado's No. 1 Hertha, NW cor., Section 21-4n-69, Berthoud Dome, set the 10-inch at 2,012 feet and will run and carry the 8¼-inch. Art Deininger's No. 1 Rimbey, NE cor., Section 35-4n-70, near Loveland, which was drilled to 354 feet in 1927 and has since been idle, is resuming and will be carried to the Sundance. It is bottomed in the middle member of the Dakota series. It had a show of gas at 115 feet, a show of oil below the Muddy and flowing water in the Dakota.

In Fremont County, Vogel-Raddatz Corp.'s No. 22 Travis, NE SE SW, Section 28-20-69, in the south extension of the Florence Field, spudded on December 4 in a 12½-inch hole for a 2,500-foot test. The company has several good producers in this area. The Continental Oil Co.'s No. 2 Empire Zinc, SE NW, Section 8-19-70, in the Canon City district, is drilling at 260 feet, and its No. 1 Giovanni, SW NW, Section 1-19-70, is drilling at 1,415 feet. The Standard Oil Co. of Colorado's No. 1 Tiger, SE NW, Section 26-19-69, a little to the east of the proven area in the south extension, is drilling at 1,400 feet, and Caraway & Focken's No. 2-A Griffith, NE NW, Section 5-20-69, is shut down at 2,760 feet, but will be drilled deeper.

In Las Animas County, the Helium Co.'s No. 1 Hall, NW SE SW, Section 19-27-59, Delhi Dome, is spudding.

Trouble in Important Test

In Huerfano County, the Parker Club, Inc.'s No. 1 Fee, Section 4-28-68, Badito-Alamo structure, joint with the Kinney-Coastal Oil Co., is bottomed at 3,895 feet in hard black shale and is believed to be 10 to 60 feet off the Dakota. Two packers were run, one below the gas and the other on the old bottom at 3,890 feet. A complete shutoff was secured, but when drilled 5 feet deeper, the lower packer failed to hold and the water came in. The gas amounts to 500,000 to 1,000,000 feet a day. This test is of more than ordinary interest as it is located in the vicinity of numerous igneous dykes and plugs. There are a large number of structures in that district and in northern New Mexico which have not been tested due to the belief that the presence of the igneous intrusions is unfavorable to the accummulation of oil. Should this test prove otherwise, it is expected to have an important bearing on wildcatting in that area.

In Bent County, the Continental Oil Co.'s No. 1 Pipe Springs, NE SE, Section 7-27-49, is drilling at 5,135 feet. This well has been carried at a greater depth, but this is correct according to company reports. C. Frost Liggett's test on the Caddoa structure in the NE NW NW, Section 12-23-50, is shut down waiting for equipment. It is having trouble with the 6¼-inch. Depth of the well is not given out by the operator, but it is reported to be bottomed at around 3,500 feet.

In Elbert County, the Belmont Oil Co.'s No. 1 Maher, NE SW, Section 4-6s-59, Deer Trail area, is shut down at 3,720 feet with the 6⅝-inch on bottom to rebuild derrick and install standard rig to replace the small machine with which the hole has been carried to the present depth. The ability to drill to 3,700 feet with the old and small portable used is considered a good piece of work. The hole has had several good shows. The Progressive Oil & Land Co.'s No. 1 Pease, SE SW, Section 27-10s-60, is shut down at 250 feet for repairs. It cut water sands at 20-24, 49-54 and 97-103 feet.

In Arapahoe County, the McDeb Drilling Co.'s No. 1 Fitzsimmons, NE, Section 7-4s-66, is drilling at 4,760 feet and carrying the 6¼-inch at 4,735 feet.

In Adams County, Nettie M. Slatt's No. 1 Hills, SE cor., Section 27-3s-64, is drilling at 970 feet.

In Washington County, M. T. Smith & Sons' No. 1 Middlemist, is bottomed at 1,500 feet and has underreamed and lowered the 15½-inch to 1,205 feet.

In Dolores County, in the southwestern part of the state, the Transcontinental Oil Co.'s No. 1 Glade, C NW, Section 30-41-16, is drilling at 5,255 feet.

UTAH

The Continental Oil Co.'s No. 1 Boundary Butte, Section 22-43-22, San Juan County, southeastern Utah, the most interesting wildcat in that state at the present time, has commenced making new hole below 5,570 feet, where it has been bottomed for several weeks while a string of special 3¾-inch casing was being run. The hole was bridged 300 feet off bottom and cleaning out has been in progress. At last reports the hole had been cleaned and deepened to 5,613 feet and casing lowered to that depth. The Utah Oil Refining Co.'s No. 31 Pary, SW SE, Section 14-39-1w, Butler Valley Dome, Kane County, is bottomed at 275 feet in buff-colored sand and was filled back to 240 feet to straighten. Operations are reported resumed on the Virgin Dome Oil Co.'s No. 1, NW NW, Section 16-42-14, on the Harrisburg Dome in Washington County, which has been standing for several years at 3,400 feet. Contract to complete the test was let to A. P. Mitchell and the hole is being reamed to case. The Fulton Petroleum Corp. is preparing to do some drilling on the Farnham Dome in Carbon County for the Carbon Dioxide & Chemical Co. to develop carbon dioxide for the manufacture of dry ice. This structure was drilled in 1923 by the Utah Oil Refining Co., the test being located in the NE SW, Section 12-15-11. It was abandoned at 3,235 feet after encountering a flow of 2,000,000 feet of carbon dioxide gas.

IDAHO

H. B. Sheppard, writing from Idaho Falls, Idaho, says reports coming from the state capital are to the effect that the International Finance Corp., of Wenatchee, Wash., which has taken leases in western Idaho and eastern Oregon on about 120,000 acres, is now forming three corporations, each of which is to be capitalized for $10,000,000. One will be a natural gas company, another a petroleum company and the third will be a pipe line company. The project as outlined provides for the piping of gas westward to Portland and north from there to Bellingham and other cities with a branch line from Walla Walla to Spokane.

The Public Utilities Commission of Idaho has set December 27 as the date for hearing the applications of John McFadyen and L. B. Denning of the Western Public Service Co. for permits to build an extension of the Colorado-Wyoming-Utah system into southern Idaho.

The California Co.'s No. 1 Sorensen, NW SW, Section 33-3n-41, Meadow Creek, is cementing at 3,555 feet. The Grand Teton Oil Co.'s No. 1 Blevins, Section 33-5n-44, Horsehoe structure, Teton County, is drilling below 1,500 feet after making a water shutoff at 1,348 feet. The same company's No. 1 Bevan, SE, Section 28-5n-44, is repairing rig and cleaning out preliminary to resuming at 1,300 feet.

WYOMING

The Midwest Refining Co.'s No. 29-DT, NW, Section 35-40-79, in the Salt Creek Field, a deep test of all horizons down to the granite, broke loose the past week and put 2,117 bbls. of oil in the tank in 24 hours. It has been shut in and the oil will be mudded off so that drilling may continue. The well is being drilled with a rotary bit to mud off the oil in producing horizons until the hole reaches the lower formations which heretofore have not been explored. At 2,874 feet it entered the third bench of the Sundance sand and encountered considerable oil. While it gave evidence of breaking loose, it was restrained for several days and then cleaned itself. There was a pressure of 1,600 pounds back of the oil and this makes it difficult to control. It is possible that the well may be produced for a short period in order to relieve the pressure, but attempts will be made to mud it off and continue drilling. Tests to the horizons below the Sundance, which include the Embar, Tensleep, Amsden and Madison, have been started several times, but the high pressure in the upper horizons prevented them from being carried on down.

In Fremont County, the Producers & Refiners Corp.'s No. 9, C SW SW, Section 15-32-95, Big Sand Draw, which is trying to get through the gas sands in the Frontier and test the lower horizons for oil, is bottomed at 2,978 feet, on top of the fourth Wall Creek, and has recovered the drill pipe which has delayed drilling for several weeks. The Kinney-Coastal Oil Co.'s No. 1 Dykeman, SE SW, Section 22-3n-1w, Pilot Butte, is still bottomed at 3,367 feet, where it encountered a big flow of gas last October, and is lubricating to mud off and drill deeper. The Texas Production Co.'s No. 1-A State, SW, Section 36-34-95, Alkali Butte, is drilling at 475 feet after overcoming a crooked hole which necessitated filling back.

In Converse County, east of the Big Muddy Field, the Pioneer Oil Co. organized in Douglas to take over the operation of the Criterion Oil Co. in the SW NE, Section 5-31-70, Irvine structure, is now in control of the leases and well and is cleaning out. The hole is bottomed at 3,650 feet in the top of the Sundance which is reported showing some saturation. However, it has been idle at this depth for more than a year with the pipe parted 85 feet from the surface.

Important Test in Lincoln County

In Lincoln County in the southwestern part of the state, the Mountain Oil Corp.'s No. 1 State, Lot 1, Section 36-25½-115, on the Wyoming structure, has begun spudding. This operation is destined to attract considerable attention on account of its importance in exploring a large structure and its possession of several unusual features. The derrick floor is 8,800 feet above sea level. The structure is approximately 10 miles long and 4 miles wide and has a closure of 1,000 feet. While the Mountain Oil Corp., of which Miller Robert Taylor is vice president in charge, is the largest holder of interest, other companies contributing to the test are the Midwest Refining Co., the Mountain Fuel Supply Co., the Utah Oil Refining Co., the Texas Production Co., the California Co., the Arkansas Fuel Oil Co., the Continental Oil Co. and the Transcontinental Oil Co. The Midwest Refining Co.'s No. 1 Little Grays River, SE, Section 25-37-117, is still bottomed at 1,720 feet and is mixing and running mud. Reeves Aylemore's No. 1 Higgins, NE NW, Section 7-21-119, Sage district, is shut down at 1,500 feet for the winter.

In Sublet County, Sackrider & Kuhlman's No. 2, Lot 11, Section 3-26-113, La Barge Field, is spudding and their No. 3 on the same lot and section is building rig. Both are offsets to producers.

In Uintah County, the California Co.'s No. 1 Union Pacific, NE NW, Section 7-17-116, Muddy Creek, is drilling at 4,580 feet.

In Park County, the Grebo Royalties, Inc.'s No. 1 McGrath, NE cor. SE, Section 3-47-100, Little Buffalo Basin, is rigging up, and the California Exploration Co.'s No. 2, NW NE, Section 14-48-102, Pitchfork structure is shut down for the winter at 2,080 feet. In the Oregon Basin Field, Charles E. Orchard's No. 2 Frisby, SE NW, Section 32-52-100, is building derrick, and his No. 1 Owens, SE cor., Section 29-52-100, is cementing casing at 3,560 feet. Orchard's No. 7 Rue, SW cor. NW, Section 28-51-100, is standing at 3,570 feet, and his No. 1 Atherly, SW cor., Section 33-52-100, is drilling below 2,200 feet. The Texas Production Co.'s No. 1 Sonners, NW cor., Section 29-51-100, is drilling at 3,250 feet.

Pipe Line Runs

Daily average production for week ending December 14:

WYOMING	
Salt Creek	34,110
Frannie	680
Big Muddy	2,110
Oregon Basin	3,620
Dutton	30
Elk Basin	760
Ferris	40
Grass Creek	2,170
Greybull	10
Hamilton	980
LaBarge	2,270
Lance Creek	160
Lost Soldier	3,180
Osage	610
Poison Spider	1,150
Rock River	2,280
Rex Lake	100
Lander	440
Simpson Ridge	60
Teapot Dome	40
Mule Creek	510
Total	55,260
MONTANA	
Cat Creek	1,230
Kevin-Sunburst	6,800
Pondera	2,500
Lake Basin	70
Total	10,600
COLORADO	
Moffat	1,047
Fort Collins	1,778
Florence	724
Iles	1,133
Tow Creek	411
Boulder	25
Rangley	100
Total	5,218
NEW MEXICO	
Artesia	746
Cap Rock (Maljamar)	918
Hogback	420
Rattlesnake	1,308
Table Mesa	114
Jal	70
Hobbs High	....
Total	3,576
Grand total	74,654

MONTANA

Cold weather and snow interfered with the field work in Montana fields to a great extent the past week. No completions are reported from Sunburst although some outfits are endeavoring to keep the bit drilling in spite of weather conditions. In Pondera Field, the Midwest Refining Co. has practically shut down all its work except the production end and will probably not start any more tests before spring.

Two wells drilling on the Canadian

border, on the Montana side of the line, were shut down by the cold weather, but are to start as soon as warmer days come. No. 1 Vanalta is producing in this field and is shipping its oil to Coutts, about 5 miles from the well. Coutts is on the Canadian side of the line from Sweetgrass, only a street separating the two towns.

Some large blocks of leases are being gathered together for the coming season. One block of 24,000 acres has been leased on the Crown Butte structure. This block adjoins a 1,500-acre block the California Co. is expecting to start a well on in the spring. In Toole and Fallon Counties, the State has granted leases on 1,360 acres of state lands for oil development purposes.

Near the town of Jordan, in Garfield County, Central Montana, the Texas Pacific Coal & Oil Co. has a good showing of gas in a wildcat well at 2,215 feet. This test is on the Freedom structure and about 75 miles east of the Cat Creek Field.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 71)

CONCHO COUNTY

Duffy et al's No. 1 Callan, 1,520 ft. N and 1,120 ft. W of SE cor., Sec. 21, Blk. 10, H.&T.C.R.R. Sur. — Spudded and shut down.
Turner et al's No. 1 Borsig, 150 ft. from S of SE cor., G. Emm.g Sur. 130, 6 mi. W of Paint Rock — Shut down 735 ft.

CRANE COUNTY

Church & Field's No. 5 University-Duall, 990 ft. from W, 1,650 ft. from S, Sec. 39, Blk. 30 — Rig.
Church-Weekly's No. 1 University, Sec. 34, Blk. 30, 2,310 ft. from N and E, University Land — Location.
Duffey et al's No. 7 Cowden Bros., 1,320 ft. from S and 1,420 ft. from E of Sec. 18, Blk. X, C.C.S.D.&R.G. N.G.R.R. Sur. — Rigging up.
Gulf Prod. Co.'s No. 69 McElroy, 1,442 ft. S and 330 ft. E of NW cor. Gulf's lease, Sec. 185, Blk. F, C.C.S.D. &R.G.N.G.R.R. Sur. — Top salt 1,180 ft.; top lime 2,797 ft.; drlg. 2,995 ft.
Gulf Prod. Co.'s No. 70 McElroy, 1,442 ft. S and 2,970 ft. W of NE cor. of Gulf's lease out of Sec. 201, Blk. 5, C.C.S.D.&R.G.N.G.R.R. Sur. — Drlg. 2,890 ft.
Humble Oil & Ref. Co.'s No. 1-E University, 2,310 ft. from N and 930 ft. from E, Sec. 40, Blk. 30, University Land — Location.
Republic Prod. Corp.'s No. 1 Hughes, 990 ft. from N and 1,650 ft. from W of their lease, Sec. 2, Julia Prather Sur. — Drlg. 2,368 ft.
Tidal Oil Co.'s No. 3 University-E, 330 ft. N and E of SW cor. E half of NW, Sec. 39, Blk. 30, University Land — Top salt 1,050 ft.; drlg. 1,090 ft.
Warner-Quinlan Co.'s No. 6 University, 330 ft. S and E of NW of E half of SW, Sec. 39, Blk. 30, University Land — Top salt 1,065 ft.; drlg. 2,065 ft.
Warner-Quinlan Co.'s No. 7 University, 990 ft. S and 330 ft. E of NW of E half SW, Sec. 39, Blk. 30, University Land — Rigging up.

CROCKETT COUNTY

California Co.'s No. 1 Shannon, Lease 3, 1,663 ft. N and 2,323 ft. W of SE cor., Sec. 42, T.C.R.R. Sur. — Top salt 1,110 ft.; shut down 1,440 ft.
Cushing Ref. & Gas Co.'s No. 3 Powell, 330 ft. from S and E of Sec. 53, Blk. BB, G.C.&S.F.R.R. Sur. — Drlg. 1,025 ft.
Empire Gas & Fuel Co.'s No. 1 Shannon, 330 ft. from N and E of Sec. 42, T.C.R.R. Sur. — Top salt 1,130 ft.; drlg. 2,265 ft.
Lewis & Daniels' No. 1 Pecos River bed, 19 yds. S and 37° E of NW cor., Sec. 33, Blk. 1, I.&G.N. Sur. — Shut down 1,384 ft.
Magnolia Pet. Co.'s No. 1 Hoover, 2,310 ft. from N and 330 ft. from E of Sec. 12, Blk. 1, G.C.&S.F.R.R. Sur. — Derrick.
T. P. Coal & Oil Co.'s No. 1 Shannon, 330 ft. from S and W of Sec. 44, T.C.R.R. Sur. — Top salt 1,060 ft.; drlg. 1,915 ft.

CULBERSON COUNTY

Grisham & Hunter Oil Corp.'s No. 1 fee, 330 ft. from S and W of Sec. 14, Blk. 59, T.&P. Sur. — Oil show 1,437 ft.; hole full salt water 2,612 ft.; underreaming 6-in. casing; total depth 2,966 ft.
Grisham & Hunter Oil Corp.'s No. 1 Seay, 330 ft. from S and W of Sec. 16, Blk. 59, Twp. 7, T.&P.R.R. Sur. — Hole full sulphur water 2,590 ft.; running 8-in. casing 2,605 ft.
Grisham & Hunter Oil Corp.'s No. 3 Seay, 330 ft. from S line, 330 ft. from W line, Sec. 16, Blk. 59, Twp. 7 — Underreaming 12½-in. casing 390 ft.; drlg. 540 ft.
Hickey & Stiver's No. 1 C. O. Finley, 600 ft. N and 1,980 ft. W, Sec. 20, Blk. 82 — Small show oil 1,331 ft.; shut down 2,260 ft.; hole full water elev. 3,874 ft.
West Coast Oil & Exploration Co.'s No. 1 McGregor, C NW, Sec. 14, Blk. 81 — Slight show oil 740 ft.; shut down 825 ft.; repairing engine.
Scott & Dittman's No. 1 Miller, 1,160 ft. N and 2,480 ft. E, Sec. 1, Blk. 97, Public School Land — Rainbow 1,056 ft.; 300 ft. sulphur water 1,725 ft.; oil show 2,528 ft.; hole full sulphur water; running 6-in. casing; shut down 3,508 ft.

ECTOR COUNTY

Anderson's No. 1 fee, 1,320 ft. E along N line, Sec. 19, and 150 ft. N at right angles with line, Sec. 18, Blk. B-16, Public School Land — Moving in material.
Cosden Oil Co.'s No. 1-A University, 2,310 ft. from N, 440 ft. from E of Sec. 1, Blk. 35 — Rigging up standard tools.
Cosden Oil Co.'s No. 1 University-B, 1,650 ft. S and 440 ft. W of NE cor. Sec. 2, Blk. 35 — Shut down 670 ft.
Landreth Prod. Corp.'s No. 1-S University, 990 ft. S and 440 ft. W of NE cor. Sec. 2, Blk. 35 — Drlg. 400 ft.
Landreth Prod. Corp.'s No. 1-T University, 990 ft. N, 440 ft. E, Sec. 3, Blk. 35, University Land — Rigging up standard tools.
Llano Oil Co.'s No. 1 Midland, 330 ft. N and W of Sec. 18, Blk. 44, Twp. 3s, T.&P.R.R. Sur. — Location.
Penn-Humble's No. 1 York, 330 ft. N, 2,640 ft. W, Sec. 16, Blk. 44, Twp. 3s, T.&P.R.R. Sur. — Top salt 1,240 ft.; drlg. 2,705 ft.

EL PASO COUNTY

Laytex's No. 1 Malone, 2,200 ft. SW and NW, Sec. 46, J. M. Day Sur. — Fishing tools 1,481 ft.

EDWARDS COUNTY

A. M. Griffith's No. 1 Wardlow, Sec. 60, V-8, J. C. Clift Sur. — Shut down 3,000 ft.

FISHER COUNTY

Cranfill & Reynolds' No. 1 Bledsoe, 330 ft. N and E of SW SE, Sec 200, B.B.B.&C.R.R. Sur. — Drlg. 1,770 ft.
Landreth Prod. Corp.'s No. 2 Cooper, 330 ft. S and W of NE cor. Sec. 116, Blk. 1, H.&T.C.R.R. Sur — Drlg. 2,825 ft.
Magnolia Pet. Co.'s No. 1 Lee, Sec. 357, 2,310 ft. from N and 4,286 ft. from W — Total depth 3,808 ft.; cleaning out.
Midwest Oil Co.'s No. 1 Steele, 660 ft. from S, 440 ft. from W, Sec. 210, Blk. 1 — Show oil 2,940-45 ft.; top pay 3,192 ft.; shut down 3,193 ft.
Roeser-Pendleton and Amerada's No. 1 First Nat'l Bank of Waco, 660 ft. N and 600 ft. W of SE cor. NE of Sec. 204, B.B.B.&C. Sur. — Drlg. 3,045 ft.

GAINES COUNTY

Louisiana Oil & Ref. Co.'s No. 1 Ralph, 1,320 ft. from S and W of Sec. 7, Blk. A-28, Public School Land — Drlg. 1,400 ft.

GARZA COUNTY

Pandem Oil Corp.'s No. 1 Justice, 330 ft. from S and W of Sec. 12, Blk. 6, H.&G.N. Sur. — Location.
Pandem Oil Corp.'s No. 1 Stokes, 2,310 ft. N and E of SW, Sec. 32, Blk. 5, G.H.&H.R.R. Sur. — Drlg. 2,600 ft.
Bell Thompson's No. 1 Tuffing, 330 ft. from S, 2,310 ft. from E, Sec. 10, Blk. 6, H.&G.N. Sur. — Shut down 2,610 ft.

GLASSCOCK COUNTY

Amerada Pet. Corp.'s No. 1 Coffee, Sec. 22, Blk. 33, Twp. 2s, 990 ft. from N, 2,310 ft. from W — Drlg. 1,232 ft.
California Co.'s No. 3 Currie, 990 ft. S and 2,310 ft. W of NE cor., Sec. 219, Blk. 29, W.&N.W.R.R. Sur. — Coring 2,600 ft.
California Co.'s No. 1 Jones, 330 ft. S from N and E lines, Sec. 25, Blk. 33, Twp. 2s, T.&P. Sur. — Rig.
Timberlake & Snyder's No. 1 Meek, 2,310 ft. W and 1,600 ft. N of SE cor., Sec. 7, Blk. 34, Twp. 3s, T.&P. Sur. — Show oil 970 ft.; drlg. 1,150 ft.
Glasscock et al's No. 1 Edwards, 330 ft. from S, 1,650 ft. from E, Sec. 18, Blk. 33, Twp. 2s, T.&P.R.R. Sur. — Cem. 6-in. casing 2,276 ft.; total depth 2,299 ft.; top pay 2,277 ft.
Kirby Pet. Co.'s No. 3 Baker, Sec. 23, Blk. 33, Twp. 2s, 1,650 ft. from N, 330 ft. W — Building rig.
Lion Oil & Ref. Co.'s No. 3 Coffee, 990 ft. S and 330 ft. W of NE cor. Sec. 22, Blk. 33, Twp. 2s, T.&P.R.R. Sur. — Topped lime 2,053 ft.; setting pipe 2,068 ft.; shut down 2,071 ft.
Simms Oil Co.'s No. 2 Coffee, Sec. 22, Blk. 33, Twp. 2s, 1,650 ft. from N, 330 ft. E — Derrick.
World Oil Co.'s No. 2-C McDowell, Sec. 21, Blk. 34, Twp. 2s, 330 ft. S and 2,310 ft. E of NW cor. — Hole full water 840-75 ft.; set 10-in. casing 835 ft.; hole full water 910 ft.

HOWARD COUNTY

Continental Oil Co.'s No. 2 Clay, Lease 1, 330 ft. N and 990 ft. E of SW cor. Sec. 127, Blk. 29, W.&N.W.R.R. Sur. — Drlg. 2,071 ft.
Continental Oil Co.'s No. 3-E Clay, 1,650 ft. N and 990 ft. W of SE cor., Sec. 138, Blk. 29, W.&N.W.R.R. Sur. — Location.
Continental Oil Co.'s No. 13 Clay-A, 1,980 ft. S and 200 ft. W of NE cor. of Sec. 139, Blk. 29, W.&N.W.R.R. Sur. — Location.
Cosden Oil Co.'s No. 6 Roberts-A, 200 ft. N and E of SW cor, Sec. 129, Blk. 29, W.&N.W.R.R. Sur. — Shut down 1,456 ft.; sulphur water 1,433-46 ft.
Empire Gas & Fuel Co.'s No. 4 Clay, 330 ft. N and 2,310 ft. W of SE cor. Sec. 127, Blk. 29, W.&N.W.R.R. Sur. — Drlg. 340 ft.
Group No. 1 and Continental Oil Co.'s No. 8-A Settles, 990 ft. N and 2,310 ft. W of SE cor. Sec. 135, Blk. 29, W.&N.W.R.R. Sur. — Total depth 2,939 ft.
Magnolia Pet. Co.'s No. 1 Snyder, 330 ft. from N and 990 ft. from W, Sec. 36, Blk. 30, Twp. 1s, T.&P. R.R. Sur. — Rigging up.
Magnolia Pet. Co.'s No. 13 Dora Roberts, 2,440 ft. N and 1,650 ft. E of SW cor., Sec. 136, Blk. 29, W.&N.W. Sur. — Shut down 2,927 ft.
Merriwether's No. 1 Smith, 150 ft. from S, 2,490 ft. from W, Sec. 45, Blk. 33 — Shut down 1,500 ft.
Midwest Exploration Co.'s No. 5-C Clay, 990 ft. from E and S, Sec. 138, Blk. 29, W.&N.W.R.R. Sur. — Drlg. 1,190 ft.
Moody Oil Corp.'s No. 23-B Roberts, 990 ft. from N and W of Sec. 137, Blk. 29 — Total depth 261 ft.; set 10-in. casing.
Plymouth Oil Co.'s No. 4 Abrams, 330 ft. from N and 1,650 ft. from W, Sec. 5, Blk. 32, Twp. 2s — Top pay 2,480 ft.; shut down 2,519 ft.; plugged back 2,505 ft.; pumped 20 bbls., 15 per cent water, in 24 hrs.; preparing to shoot well.
Shell Pet. Corp.'s No. 2 Abrams, Sec. 13, Blk. 33, Twp. 2s, 2,310 ft. from S, 990 ft. from E, T.&P. Sur. — Top pay 2,135 ft.; pumped 1,025 bbls. 24 hrs.; total depth 2,390 ft.
Simms Oil Co.'s No. 2 Clay, 330 ft. from S, 2,310 ft. from W, Sec. 127, Blk. 29 — Drlg. 920 ft.
Ward Oil Co.'s No. 21 Roberts, 2,310 ft. N and 990 ft. E of SW cor. of Sec. 137, Blk. 29, W.&N.W.R.R. Sur. — Shut down 1,708 ft.

HUDSPETH COUNTY

California Co.'s No. 1 University, 3,821 ft. N and 2,554 ft. E of SW cor., Sec. 19, Blk. E — Top pay 2,851 ft.; underreaming 10-in. casing 2,600 ft.
George Richardson's No. 1 Paxton, 2,640 ft. from N and W, Sec. 3, Blk. 16 — Shut down 205 ft.
Western States Oil Co.'s No. 1 Moore, C SE, Sec. 16, Blk. 71, Twp. 6, T.&P. Sur. — Shut down 2,760 ft.
Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW, Sec. 12, Blk. 18 — Shut down 3,140 ft.

IRION COUNTY

Beesley's No. 1 Sawyer Cattle Co., 1,320 ft. N and E of SW cor., Sec. 3,032, Blk. 24, H.&T.C.R.R. Sur. — Shut down 190 ft.; to run 15-in. casing.
Crawford Oil Co.'s No. 1 Williams, 450 ft. from N, 150 ft. from W, Subd. 8 — Shut down 1,105 ft.
Carl Cromwell's No. 1 Tankersley, 2,490 ft. from S and E, Sec. 1,219, T.C.R.R. Sur. — Shut down 520 ft.
Cromwell et al's No. 1 Fuller, 2,134 ft. N and 631 ft. W of SE cor., Sec. 81, Blk. 1, H.&T.C.R.R. Sur. — Fishing 710 ft.
Dennys & Andrews' No. 1 Tankersley, 2,660 ft. from W, 600 ft. from S of Sec. 4, H. N. Wallace Sur. — Fishing 529 ft.
Kingwood Oil Co. et al's No. 1 J. D. Suggs, SE NW SE, Sec. 19, Blk. 7, H.&T.C. Sur. — Show gas 7,656 ft.; set 4½-in. casing 7,550 ft.; encountered 2,400 ft. sulphur water at 7,818 ft.
J. A. Starkweather's No. 1 Lindley, Sec. 1,160½, 900 ft. from S, 150 ft. from E, H.&T.C. Sur. on E — Shut down 1,475 ft.
P. H. Williams' No. 1 Ash, C of Sec. 20, Washington County — Drlg. 5,350 ft.

JONES COUNTY

J. H. Adsite et al's No. 1 Swenson, C of NE of SE, Sec. 192, B.B.B.&C. Sur. — Shut down 2,508 ft.
Continental Oil Co.'s No. 1 Phillips, 440 ft. from S and 330 ft. from E of Phillips 80-ac. tract, Sec. 16, Blk. 19, T.&P. Sur. — Drlg. 500 ft.
Cosden-Herbert et al's No. 3 Bickley, 330 ft. N and W of SE cor. of S half NW, Sec. 50, Blk. 18 — Rig.
Cranfill & Reynolds' No. 1 Stevens, 990 ft. from N and 3,630 ft. from W of John McMullen Sur. 337 — Drlg. 2,190 ft.
Mid-Tex Oil & Gas Co.'s No. 1 King — Shut down 1,520 ft.
Mid-Tex Oil & Gas Co.'s No. 1 Minter, 1,819 ft. from W and 765 ft. from N of Sec. 41, Blk. 15, T.&P. Sur. — Shut down 1,949 ft.; underreaming 8-in. casing.
Shabeen et al's No. 1 King — 800 ft. fluid in hole; cleaning out 2,066 ft.; top pay 2,061 ft.; 1,200 ft. oil in hole.

KENT COUNTY

California and Atlantic's No. 1 Wallace, 330 ft. from S and W, Sec. 60, Blk. G, W.&N.W.R.R. Sur. — Rigging up standard tools.
White & Smith's No. 1 Pursley estate, 1,320 ft. from E and 2,640 ft. from S of Sec. 8, Blk. E, H.&T.B. Sur. — Fishing 300 ft.

KIMBLE COUNTY

C. L. Bryant et al's No. 1 Lambert, 700 ft. from N and W line of F. Lotta Sur. — Shut down 800 ft.
McLean & Jamison's No. 1 Cannon, 1,940 ft. N and 300 ft. W of SE cor. Robert Cochran Sur. — Shut down 1,350 ft.

LOVING COUNTY

Humble Oil & Ref. Co.'s No. 1 Kioh, 2,640 ft. N and W, Sec. 35, Blk. 55, Twp. 2, T.&P.R.R. Sur. — Fishing 3,750 ft.
Independent O. & G. Co.'s No. 1 Wheat, 330 ft. each way from W cor of Sec. 85, Blk. 1, W.&N.W. Sur. — Drlg. 3,398 ft.

Lockhart & Co.'s No. 3 Allen, 330 ft. from NE, 1,650 ft. from NW. Sec. 82, Blk. 33, H.&T.C. Sur. — Top salt 725 ft.; cem. 6-in. casing 4,025 ft.; total depth 4,240 ft.

Lockhart & Co.'s No. 2 fee, 676 ft. S, 330 ft. W, Sec. 91, Blk. 1, W.&N.W. Sur. — Rigging up standard tools.

LYNN COUNTY

Lu ewell Oil Co.'s No. 1 May, 2,310 ft. S, 2,310 ft. W, Sec. 10, Blk. 7, E.L.R.R. Sur. — Shut down 190 ft. for casing.

George McCamey's No. 1 Edwards, 165 ft. N and E, Sec. 5, Blk. 2, L.S.&W. Sur. — Top salt 2,140 ft.; oil show 1,580-90 ft.; hole full sulphur water 4,730 ft.; set 6-in. casing 4,733 ft.; drlg. 4,975 ft., white lime.

MENARD COUNTY

Cromwell & Duffey's No. 2 Winslow, 250 ft. S and E of NW cor. NE of NE, Sec. 36, J. H. Gibson Sur. — Drlg. water well.

I. C. Barnett's No. 2 Callan, Sec. 1, 1,050 ft. from S, 1,190 ft. W — Est. 10-bbl. show oil from 1,132-52 ft.; drlg. 1,250 ft.

MITCHELL COUNTY

California Co.'s No. 8 Foster, Lease 1, 1,100 ft. S and 990 ft. W NE cor., Sec. 6, Blk. 29, Twp. 1s, T.&P. R.R. Sur. — Shut down 720 ft.

Gibson & Johnson's No. 2 Scott, 150 ft. N and 2,490 ft. W of SE cor., Sec. 7, Blk. 19, Lavaca Navigation Co. — Spudded and shut down 720 ft.

Morrison et al's No. 1 Morrison, Sec. 1, Blk. 29, Twp. 1n, 2,390 ft. from N, 660 ft. from E, T.&P.R.R. Sur. — Building rig.

Morrison et al's No. 2 Morrison, 2,390 ft. from N and 660 ft. from E of Sec. 31, Blk. 28, Twp. 1n, T.&P. R.R. Sur. — Location.

Seiger's No. 1 Scott, C of NE of SW, Sec. 36, Blk. 17, S.P.R.R. Sur. — Shut down 730 ft.

Texas & Wheeler's No. 1 Radford, 1,320 ft. N and W of Sec. 1, Blk. 27, T.&P. Sur. — Fishing 4,454 ft.

NOLAN COUNTY

Gibson & Johnson's No. 1 Bond, 1,320 ft. from N and 1,980 ft. from E of Sec. 42, Blk. 20, T.&P. Sur. — Drlg. 2,725 ft.

Phillips Pet. Co.'s No. 1 Plunkett, 330 ft. N and W of SE cor. NW. Sec. 66, Blk. 22, T.&P. Sur. — Underreaming 4,425 ft.

PECOS COUNTY

Amerada Pet. Corp.'s No. 1 University, 990 ft. from S, 2,310 ft. W, Sec. 13, Blk. 18, University Land — Drlg. 80 ft.

Arkansas Fuel Oil Co.'s No. 1-A University, 1,650 ft. from S and W of S c. 32, Blk. 16 — Drlg. 440 ft.

E. W. Bateman's No. 1 Cunningham, 330 ft. from S and W line of NE. Sec. 34, Blk. 11 — Shut down 1,395 ft.

Black & Dittman's No. 1 Pecos Valley, 160 ft. from SW and SE lines, Sec. 34, Blk. 3, H.&T.C.R.R. Sur. — Rigging up.

Buell & Hagan's No. 1 Byrne, 990 ft. from N and 2,310 ft. from E of Sec. 54, Blk. 10, H.&G.N.R.R. Sur. — Drlg. 1,100 ft.

California Co.'s No. 6 Smith, Lease No. 1, 1,700 ft. N and 330 ft W of SE cor., Sec. 37, Blk. 194, G.C. &S.F.R.R. Sur. — Moving in material.

California Co.'s No. 2 Tippett, 2,016 ft. from S and 1,040 ft. from E of S c. 2, D. F. Robertson Sur. — Temporarily a andoned.

Cardinal Oil Co.'s No. 1 Tippett, 330 ft. N and W of SE cor., Sec. 36, Blk. 12, H.&G.N.R.R. Sur. — Location.

Continental Oil Co.'s No. 2 University, 330 ft. S and 1,680 ft. E of NW cor. of Sec. 6, Blk. 17, University Land — Drlg. 1,320 ft. in lime.

Continental Oil Co.'s No. 3 University, 330 ft. S and 2,371 ft. E of NW cor. Sec. 6, Blk. 17, University Land — Pumped 8 bbls. at total depth 1,285 ft.

Continental Oil Co.'s No. 6 University, 330 ft. S and 3,031 ft. E of NW cor. of Sec. 6, Blk. 17, University Land — Cellar.

E. W. Bateman et al's No. 1 Cordova, 3,490 ft. from N and 1,515 ft. from W, Sec. 29, Blk. 11, H.&G.N.R.R. Sur. — Shut down 1,425 ft.

Crosby Prod. & Royalty's No. 3 Smith, 330 ft. from S and W line, S c. 24, Blk. 194 — Drlg. 230 ft.

Cosden Oil Co.'s No. 1 McDonald, 350 ft. from N and E of Sec. 1, H.E.&W.T. Sur. — Drlg. 1,300 ft.

Cranfill & Reynolds' No. 1 Masterson, SW cor. Sec. 104, Blk. 10 — Top pay at 1,249 ft.; second pay 1,268 ft.; 18½ bbls. oil; deepened to 1,450 ft. without increase.

Dixie Oil Co.'s No. 1 McKinzie, 3,300 ft. from N and 2,025 ft. from W of Sec. 15, Blk. 604, G.C.&S.F. — Rigging up.

Freeman et al's No. 1 Pecos Valley, 150 ft. from NW and SW of NE half of S, Sec. 36, Blk. 3, H.&T.C. Sur. — Shut down 805 ft.; underreaming 8-in. casing.

A. M. Griffith's No. 1 Ferrenbach et al, 2,112 ft. from W line, 1,320 ft. from S line, Sec. 9, Blk. 603, G.C.&S.F. Sur. — Running 10-in. casing 60 ft.

Geyer-Frates' No. 1 White-Baker, 2,310 ft. from N and E line of Sec. 29, Blk. Z, T.C.R.R. Sur. — Location.

Harrison & Cromwell's No. 1 White-Baker, 2,310 ft. from S and E. Sec. 42, Blk. 11, H.&G.N.R.R. Sur. — Oil show 822-27 ft.; drlg. 1,375 ft.

Humble Oil & Ref. Co.'s No. 1 Cunningham, C of SW, Sec. 34, Blk. 11, H.&G.N.R.R. Sur. — Hole full water 1,480 ft.; 500,000 ft. gas 870 ft.; fishing 1,600 ft.

Hussman Oil Co.'s No. 1 Esters, 960 ft. from N and 300 ft. E, Sec. 83, Blk. OW, T.M.R.R. Sur. — Location.

Independent O. & G. Co.'s No. 1 Phelps, 150 ft. N and W of N half of NE. Sec. 26, Blk. 11, H.&G.N.R.R. Sur — Drlg. 1,875 ft. in brown sand.

J. L. Kennedy's No. 1 Roberts, C of Sec. 78, Blk. 3, T.&P.R.R. Sur. — Drlg. 2,128 ft.

Sam Kitts et al's No. 1 Sherbino, 330 ft. from N and 990 ft. from W line, Sec. 52, Blk. C-4, G.C.&S.F.R.R. Sur. — Top salt 976 ft.; shut down 2,490 ft.

Kirby Pet. Co.'s No. 1 Stockton Cattle Co., 330 ft. from N and E, Sec. 2, T.C.R.R. Sur. — Drlg. 215 ft.

Landreth & Dunning's No. 1 McDonald, 330 ft. N and E of SW cor. Sec. 40½, Blk. 12, H.&G.N.R.R. Sur. — Temporarily abandoned 1,670 ft.

Landreth Prod. and Henshaw Bros.' No. 1-E University, 330 ft. N and W of SE cor. W half NE, Sec. 13, Blk. 18, University Land — Fishing 896 ft.

Landreth Prod. and Henshaw Bros.' No. 2-E University, 330 ft. S and E of NW cor. of W half of NE, Sec. 13, Blk. 18, University Land — Drlg. 360 ft.

Landreth Prod. Corp. et al's No. 1-I University, 330 ft. from S and W of NE of NE, Sec. 24, Blk. 18 — Set 10-in. casing; shut down 1,695 ft.; 2 bbls. oil hourly 960 ft.

Landreth Prod. and Henshaw Bros.' No. 2-I University, 330 ft. S and W of NE, Sec. 24, Blk. 18, University Land — Cellar.

Mauch & Kroger's No. 1 Holmes, Sec. 5, Blk. 178, T.C. Sur. — Total depth 1,445 ft.; underreaming 6-in. casing.

Mazda Oil Co.'s No. 1 Cordova Union Land Co., 2,310 ft. from N and 990 ft. from E of Sec. 103, Blk. 11, H.&G.N. Sur. — Drlg. 610 ft.

Merrick-Bristow's No. 1 Neville, 330 ft. from S and W, Sec. 42, Blk. 12, H.&G.N.R.R. Sur. — Top salt 645 ft.; shut down 1,670 ft.; will deepen.

R. E. Moore's No. 1 Arnold, 1,320 ft. from S and 660 ft. from E lines of Sec. 18, Blk. 1, H.&T.C.R.R. Sur. — Show oil 1,216 ft.; show oil 1,408 ft.; pulling 8-in. casing; drlg. 1,490 ft.

Moncrief's No. 1 Sullivan, 150 ft. E of C of SW, Sec. 58, Blk. 11, H.&G.N.R.R. Sur. — Drlg. 835 ft.

H. T. O'Neal's No. 1 Power, 2,640 ft. from N and 150 ft. from W, Sec. 1, Blk. 132, T.&St.L.R.R. Sur. — Shut down 200 ft.; moved material off.

J. D. O'Mara's No. 1 Bennett, Sec. 592, 1,460 ft. from S, 150 ft. from E, G.C.&S.F. Sur. — Fishing 875 ft.

J. D. O'Mara's No. 1 Streety, C of Sec. 1, W. P. Howard Sur. — Drlg. 1,505 ft.

Pecos Crude Oil Pur. Co.'s No. 4 Pecos Valley, 770 ft. from SW and 1,320 ft. from SE of W, Sec. 22, Blk. 10, H.&G.N.R.R. Sur. — Rig.

M. M. Rowan's No. 1 University, NE, Sec. 25, Blk. 16 — Total depth 2,490 ft.; shut down.

Shell Pet. Corp.'s No. 1 Percival, 330 ft. from N and E of SE. Sec. 199, Blk. 3, I.&G.N. Sur. — Location.

Sides & Cloyd's No. 2 Blackstone & Slaughter, C NW of Sec. 34, Blk. A-2, T.&C.R.R. Sur. — Shut down 362 ft.

Skelly Oil Co.'s No. 1 Bowers, SW cor. N half SE. Sec. 31, Blk. 16 — Drlg. 1,548 ft.; show oil and gas 1,520-30 ft.

Skelly Oil Co.'s No. 1 University, 330 ft. from S and W of N half SE. Sec. 31, Blk. 16 — Total depth 1,500 ft.

Taylor-Link Oil Co.'s No. 6 University, 330 ft. from N and 330 ft. from E of W half of SE. Sec. 13, Blk. 18. — Drlg. 1,053 ft.

Taylor-Link Oil Co.'s No. 9 University, 990 ft. N and 2,310 ft. W of SE, Sec. 31, Blk. 16, University Land. — Show oil and show gas 1,340-45 ft.; drlg. 1,420 ft.

The Texas Company's No. 1 Graef, 4,758 ft. from W and 908 ft. from S of Sec. 44½, Blk. 12, H.&G.N. Sur. — Drlg. 472 ft.

Transcontinental and Arkansas Nat'l Gas Co.'s No. 1 Matthews, 330 ft. from S, 1,060 ft. from E, Sec. 10, Blk. 194 — Location.

Trees Oil Co.'s No. 3 Trees, 330 ft. from S and W of Sec. 90, Blk. 8, H.&G.N. Sur. — Moving material.

World Oil Co.'s No. 2 University, Sec. 31, Blk. 16, 330 ft. from N, 2,310 ft. E — Drlg. 915 ft. in lime.

World Oil Co.'s No. 1-C University, 1,650 ft. from N, 990 ft. W. Sec. 7, Blk. 20, University Land — Rigging up.

PRESIDIO COUNTY

Eastland Oil Co.'s No. 1 Tootle, C Sec. 17, Blk. 1, D.P. R.R. Sur. — Spudded; shut down.

T. P. Coal & Oil Co.'s No. 1 Bogel, 330 ft. S and W, Sec. 83, Blk. 8, G.H.&S.A. Sur. — Gas show 2,810 ft.; drlg. 3,505 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 1-C University, 2,598 ft. S and 250 ft. W of NE cor., Sec. 1, Blk. 2, University Land. — Top pay 2,903 ft.; 1,000 ft. fluid in hole; top pay 6,807 ft.; shut down 8,000 ft. for 6-in. casing.

Big Lake Oil Co.'s No. 4-C University, 1,120 ft. from N and 1,096 ft. from E of Sec. 1, Blk. 2 — Showing oil and gas at 8,220 ft.; flowed 303 bbls. in 24 hrs.; total depth 8,220 ft.

Texon Oil & Land Co.'s No. 2-B University, 4,655 ft. from S, 250 ft. from W, Sec. 36, Blk. 9 — Drlg. 2,814 ft. in lime.

Texon Oil & Land Co.'s No. 3-B University, 2,240 ft. from S, 920 ft. from W, Sec. 36, Blk. 9 — Drlg. 2,985 ft. in lime.

Thomas & Brann et al's No. 1 Hughes, C NE of Sec. 7, Blk. 1, T.C.R.R. Sur. — Top salt 1,085 ft.; shut down 2,480 ft.

REEVES COUNTY

Exploration Co.'s No. 1 A. A. Kinney, 1,500 ft. W of NE cor. Sec. 26, Blk. C-18, Public School Land, elev. 2,847 ft. — Shut down 2,990 ft.

H. T. Hansford's No. 1 Williams, 150 ft. from S and W, S c. 17, Blk. 6, H.&G.N. Sur. — Total depth 200 ft.; underreaming 12-in. casing.

Black & Fink's No. 1 Brooks, 1,980 ft. N and 660 ft. W, Sec. 16, Blk. 59 — Shut down 605 ft.

Southern Crude Oil Pur. Co.'s No. 1 Kloh-Rumsey, 2,310 ft. N and W SE cor., Sec. 23, Blk. 51 — Total depth 5,191 ft.; show oil 5,191 ft.

David R. Thompson's No. 1 A. A. Eddins, Sec. 9, Blk. C-1 — Drlg. by casing 5,490 ft.

RUNNELS COUNTY

Gibson & Johnson's No. 1 Johnson, 2,310 ft. N and 1,650 ft. W of SE cor., Sec. 150, E.T.R.R. Sur. — Spudding.

Gibson & Johnson's No. 2 Serratt, 2,310 ft. from S and 1,650 ft. from E of Sec. 150, E.T.R.R. Sur. — Derrick.

Gibson & Johnson's No. 1 Woods, Sec. 529, 2,600 ft. from S and 300 ft. from E, T. T. Williams Sur. — Drlg. 3,150 ft.

H. F. Lamar's No. 1 Long, 2,310 ft. N, 6,900 ft. E, Sec. 262 — Shut down 1,375 ft.

McLean's No. 1 Clayton, 150 ft. from N line, 270 ft. from W line of Sec. 133 — Shut down 1,185 ft.

Vacuum Oil Co.'s No. 4 McMillan, 555 ft. S and 717 ft. W of NE cor., Lot 22, Domingo Diaz Sur. No. 532. — Location.

SCHLEICHER COUNTY

Delmar Oil Co.'s No. 1 O'Harrow, C of NW. Sec. 56, Blk. 1, G.H.&S.A.R.R. Sur. — Shut down 1,020 ft.

Interstate's No. 1 Whitten, 1,320 ft. from N and W, Sec. 35, Blk. LL, T.C.R.R. Sur. — Location.

George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,470 ft. from W, G.H.&S.A.R.R. Sur. — Hole slopped over with oil at 4,925 ft.; made one good flow; set 6-in. casing 5,050 ft.; drlg. 5,560 ft.

SCURRY COUNTY

Byrd & Harmon's No. 1 Murphy, Jr., 330 ft. from N and E of Sec. 114, Blk. 97, H.&T.C. Sur. — Shut down 1,372 ft.

Camp Spring Oil & Ref. Co.'s No. 3 Guinn, 1,300 ft. from S, 300 ft. from E, Sec. 12, Blk. 3, H.&T.C.R.R. Sur. — Shut down 3,319 ft.

Cottingham & Briscoe's No. 1 Trees, C SE Sec. 147, Blk. 97 — Sulphur water 3,390 ft., total depth.

I. B. Mimms et al's No. 1 J. J. Koonsman, Sec. 216, Blk. 2, E.&T.C. Sur. — Spudded and shut down 300 ft.

G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. — Shut down 4,325 ft. for 5-in. casing.

E. L. Smith Oil Co.'s No. 1 Moore, 1,320 ft. from S and W, Sec. 379, Blk. 97 — Top salt 750 ft.; drlg. 750 ft.

STERLING COUNTY

Sherwood B. Cwen's No. 1 Tweedle, 1,980 ft. from N and 1,320 ft. from E of Sec. 10, Blk. T, T.&P. Sur. — Shut down 1,420 ft.

SUTTON COUNTY

Independent Oil & Gas Co.'s No. 1 Willson, Sec. 30, Blk. A, 1,650 ft. from N, 2,310 ft. from W — Rig.

Independent and Sun Oil Co.'s No. 1 Allison, Sec. 39, Blk. A, 200 ft. from N and 1,000 ft. from W — Drlg. 4,020 ft.

TAYLOR COUNTY

Adams et al's No. 1 Lowe, 150 ft. from N and W of Sec. 19, League 120, Guadalupe Sur. — Underreaming 8-in. casing; total depth 2,037 ft.

Condor Pet. Co.'s No. 1 Allen, C of NW. Sec. 220, Blk. 64, H.T.C.R.R. Sur. — Location.

John B. Jameson's No. 1 Webb, 1,170 ft. S and W of NE cor., Sec. 46, Lunatic Asylum Land — Show oil 4,917 ft.; drlg. 5,101 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW. Sec. 155, Blk. D, M.-K.-T.R.R. Sur. — Shut down 1,150 ft.; setting 8-in. casing 850 ft.

Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. — Drlg. 2,925 ft.

Mrs. J. B. McAhee's No. 1 Sam Belt, C, Sec. 78, Blk. D-7, E.L.R.R. Sur. — Shut down 880 ft.

Transcontinental Oil Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S, Sec. 26, Blk. 161, G.C.&S.F.R.R. Sur. — Fishing 807 ft.

Woodley & Jones' No. 1 Pankenham, C SE NW, Sec. 43, Blk. B-2, C.C.S.D.&N.G.R.R. Sur. — Shut down 625 ft.

TERRY COUNTY

Kingsland Oil Prod. C.o's No. 1 Brownfield, C NW SW SW, Sec. 7, Blk. 1-A, E.L.R.R. Sur.	Fishing baller 5,080 ft.

TOM GREEN COUNTY

Cannon et al's No. 1 Rust, 990 ft. S. 990 ft. W of NE cor. of Sec. 745	Rig.
Fitzgerald & Taliaferro's No. 1 Bennett, C SW, Sec. 1,628, E. H. Ringer	Shut down 2,480 ft.
Fuhrman Pet. Co.'s No. 1 Wardlaw, 2,650 ft. from N and E of Sec. 6, Blk. 17, H.&T.C. Sur.	Drlg. 1,005 ft.
E. W. Wiley et al's No. 1 Maier, 200 ft. from E, 110 ft. from N, Sec. 6, Blind Asylum Land	Drlg. 110 ft.

UPTON COUNTY

Gulf Prod. Co.'s No. 3-B Hughes, 160 ft. N and 161 ft. W of most southerly SE cor. of their 200-ac. lease "B" out of Wm Teer Sur.	Rig.
Pure Oil Co.'s No. 3 Hughes, 150 ft. S and [illegible] ft. E. of NW of their 300 ac., Sec. 4, Wm. Teer Sur.	Drlg. 610 ft.
Pure Oil Co.'s No. 4 Hughes, Sec. 4, 330 ft. S and E SW cor., Snowden & McSweeney lease	Location.
Snowden & McSweeney's No. 3 Hughes, 330 ft. from S and W of 80-ac. lease, Sec. 4, Wm. Teer Sur.	Location.
T. P. Coal & Oil Co.'s No. 14-A Lane, 990 ft. N and 2,310 ft. W SE cor., Sec. 5, G.C.&S.F. Sur.	Drlg. 425 ft.
Texon and Continental's No. 2 Sherk, 430 ft. from N line, 330 ft. from W line, Sec. 35, Blk. 1	Drlg. 615 ft.
T. P. Coal & Oil Co.'s No. 1-D Lane, 430 ft. from S. 330 ft. W, Sec. 36, Blk. 1	Total depth 140 ft.
T. P. Coal & Oil Co.'s No. 1 Reese, 330 ft. from N and E line, Sec. 2, Blk. 3	Building road.

VAL VERDE COUNTY

Independent Operators' No. 1 Whitehead, SE SE, Sec. 30, Blk. 4, I.&G.N. Sur., elev. 1,175 ft.	Shut down 4,850 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft.	Gas sand 2,491-2,520 ft.; tested 125,700 ft. gas; reset 8-in. 2,511 ft.; reaming; drlg. 5,280 ft.
hantom Oil Co.'s No. 1 Ingram, 175 ft. W of E line and 300 ft. N of S line, Sec. 44, Blk. D-8, E.L.&R.R. Sur.	Show oil 1,535 ft.; set 12½-in. casing 1,451 ft.
Valvert Oil Corp.'s No. 1 Bassett, C NE, Sec. 47, Blk. Y.	Set 15½-in. casing 767 ft.; set 10-in. casing 1,510 ft.; shut down 4,009 ft.

WARD COUNTY

Alpine Oil & Gas Co.'s No. 1 Dakan, 228 ft. from NE and 150 ft. from SE line, Tract 8, Sec. 11, Blk. 5, H.&T.C. Sur.	Moving in machinery.
E. J. Anderson's No. 1 Johnson, 150 ft. N, 346 ft. E, Sec. 7, Blk. 32, H.&T.C.R.R. Sur.	Spudded 30 ft.
Atlantic et al's No. 1 Dorr, 1,730 ft. S, 990 ft. W, Sec. 2, J. Howe Sur.	Total depth 665 ft.; underreaming 10-in. casing.
Atlantic and Delmar's No. 6 Hayzlett, 2,490 ft. from NE and NW lines, Sec. 17, H.&T.C. Sur.	Top salt 1,140 ft.; drlg. 1,395 ft.
Atlantic and Delmar's No. 7 Hayzlett, 1,650 ft. from NE and NW of Sec. 17, Blk. 5	Location.
Grand Falls Oil Co.'s No. 1 Boogher-Holden, 2,598 ft. S, 4,026 ft. E, Sec. 11, Blk. 5, H.&T.C.R.R. Sur.	Location.
Gulf Prod. Co.'s No. 3 Hutchins, 2,310 ft. from N and 330 ft. from W, Sec. 1, Blk. F, G.M.M.B.&A. Sur.	Top salt 1,035 ft.; underreaming 10-in. casing; reaming at 1,266 ft. anhydrite and salt.
Gulf Prod. Co.'s No. 7 O'Brien, 330 ft. S and W, Sec. 22, Blk. F, G.M.M.B.&A. Sur.	Drlg. 2,845 ft.; 2,000 ft. fluid in hole, 1 bbl. of water.
Gulf Prod Co.'s No. 3 Wristen Bros., 220 ft. NE of SW and 220 ft. SE of NW, Sec. 18, Blk. 5, H.&T.C. Sur.	Show gas 1,960-70 ft.; filling up with sulphur water 2,520-27 ft.; shut down 1,000 ft. salt water at 2,545 ft.
F. E. E. et al's No. 1 Wristen, 990 ft. from S and W lines of Sec. 26, Blk. B-28	Top salt 700 ft.; shut down 2,573 ft.
E. B. Lovelace et al's No. 1 Redman, 1,980 ft. NE of SW line and 1,980 ft. SE of NW line, Sec. 162, Blk. 34, H.&T.C.R.R. Sur.	Underreaming 10-in. casing; water 1,245 ft.; drlg. 2,392 ft.
Mid-Continental's No. 1 Conway, 2,316 ft. E, 922 ft. S, Sec. 23, Blk. 29, Public School Land	Rig.
Penn and Atlantic's No. 2 Bennett, 2,310 ft. S line, 1,650 ft. W line, Sec. 16, Blk. 34, H.&T.C.R.R. Sur.	Total depth 590 ft.
Penn and Atlantic's No. 1 Cooper, 330 ft. from NE and 990 ft. from NW of Sec. 43, Blk. 34, H.&T.C. Sur.	Shut down 360 ft.
Shell Pet. Corp.'s No. 1 Owens, located NE cor. of Sec. 16, Blk. 5, H.&T.C.R.R. Sur.	Drlg. 2,983 ft.; making 2½ bbls. water hourly.
Shipley et al's No. 4 Hayzlett, 2,050 ft. NW of SE and 2,420 ft. NE of SW line of Sec. 17, Blk. 5, H.&T.C. R.R. Sur.	Top salt 720 ft.; shut down 2,546 ft.; plugged back 2,538 ft.
Shipley et al's No. 5 Hayzlett, assume common line Secs. 16 and 17 is N and S, 220 ft. S and 1,910 ft. W, Sec. 17, Blk. 5	Plugged back from 2,546 ft. to 2,538 ft.; shot 90 qts. 2,473-93 ft.; no results.
Shipley et al's No. 1 Monroe, 330 ft. SE SW, Sec. 3, Blk. 1	Drlg. 115 ft.
Sun Oil Co.'s No. 2 Sealy, 330 ft. from N and E of Sec. 88, Blk. F, G.M.M.B.&A. Sur.	Drlg. 775 ft.

WINKLER COUNTY

V. T. Bolin's No. 2 Brown et al, 2,000 ft. S and W of NE, Sec. 4, Blk. B-5, Public School Land	Top salt 1,300 ft.; shut down 2,832 ft.
Bashara et al's No. 2 Bashara, 990 ft. from S. 2,310 ft. from E, Sec. 17, Blk. B-3, Public School Land	Top brown lime 2,306 ft.; cem. 8¼-in. casing 2,308 ft.
Cinderella Syndicate's No. 1 Hendricks, 330 ft. N, 1,650 ft. W, Sec. 42, Blk. 26, Public School Land	Total depth 150 ft.; building rig.
Humble Oil & Ref. Co.'s No. 2 Walton, 2,310 ft. from N and W of Sec. 47, Blk. 26	Top lime 2,263 ft.; top salt 960 ft.; cem. 10-in. casing 2,270 ft.
Liner Drlg. Co.'s No. 1 Campbell, 330 ft. from N and E cor., Sec. 2, Blk. B-5	Top brown lime 2,510 ft.; drlg. 3,580 ft.
Sun Oil Co.'s No. 1 Sealy, 2,310 ft. N line, 330 ft. from W line, Sec. 52, Blk. F, C.M.M.B.&A. Sur.	Spudded 125 ft.

PANHANDLE FIELDS

(Continued from Page 72)

had an initial production of 29 bbls. oil 24 bbls. salt water at 1,602-65 feet. Kewanee Oil Co.'s No. 1 West was dry and abandoned at 1,600 feet.

Clay County

Belcher and others' No. 6 Evans had an initial production of 6 bbls. at 1,762-88 feet.

Foard County

Shell and Fain-McGaha's No. 1 French was shot with 40 and 85 quarts at 2,007-21 feet and had an initial production of 98 bbls. oil and 25 bbls. water. This was drilled to a total depth of 2,037 feet.

Jack County

Buttram Petroleum Co.'s No. 1 Lindsey was dry and abandoned at 3,515 feet. Christie Brothers' No. 1 Morris was dry and abandoned at 3,275 feet. Grayback Development Co.'s No. 1 Kuykendall was dry and abandoned at 3,195 feet. Shaw Oil Co.'s No. 3 Boss had an initial production of 345 bbls. at 3,123-40 feet.

Montague County

Conoco & Bridwell's No. 26 Howard was dry and abandoned at 1,656 feet. Their No. 2 Cunningham had an initial production of 121 bbls. at 1,261-65 feet. The Texas Company's No. 2 Henley had an initial production of 38 bbls. at 1,018 feet.

Throckmorton County

Cranfill & Reynolds' No. 4 Lee was dry and abandoned at 540 feet and their No. 5 Lee made 1,000,000 feet of gas at 480-91 feet.

Wichita County

Hamer & Chilton's No. 1 Hamilton was dry and abandoned at 1,903 feet. Merrick Co.'s No. 1 Wighley was dry and abandoned at 1,854 feet.

Wilbarger County

Barkley & Meadows' No. 11 Waggoner was shot with 40 quarts at 1,862-86 feet and had an initial production of 72 bbls. Bradstreet & Co.'s No. 4-C Waggoner was shot with 10 quarts at 2,367-70 feet, was drilled to a total depth of 2,400 feet, was plugged back to 2,266 feet and had an initial production of 45 bbls. Davis Oil Co.'s No. 4 Waggoner had an initial production of 1,063 bbls. at 2,645-73 feet. Empire Gas & Fuel Co.'s No. 25 Waggoner had an initial production of 70 bbls. at 2,267-90 feet. Empire Gas & Fuel Co.'s No. 17 Waggoner was dry and abandoned at 2,458 feet. Fain-McGaha's No. 16 Waggoner had an initial production of 234 bbls. at 2,282-2,311 feet. Their No. 23 Waggoner had an initial production of 137 bbls. at 2,277-2,305 feet. Massie and others' No. 1 Waggoner was dry and abandoned at 1,952 feet. Staley & Wynne Co.'s No. 8 Waggoner had an initial production of 150 bbls. at 1,855-79 feet.

Young County

Bridwell Oil Co.'s No. 6 Culler was dry and abandoned at 722 feet. Goldsmith & King Royalty's No. 6 Kunkel made 196 bbls. at 1,138-58 feet. Junkers' No. 1 Bolley was dry and abandoned at 1,103 feet. Madden & Junkers' No. 1 Kunkel was dry and abandoned at 1,203 feet. Perkins & Cullum's No. 2 Deitrich had an initial production of 100 bbls. at 1,136-49 feet. Petroleum Production Co.'s No. 1 McCarry was dry and abandoned at 1,135 feet. Richardson's No. 2 Dean made 10 bbls. at 527-54 feet. Wise-Jackson's No. 1 Miller was dry and abandoned at 727 feet. Wolf's No. 2 Hill had an initial production of 60 bbls. at 1,021-26 feet.

RANGER DISTRICT
Week ending December 14
Brown County

Brider, trustee's No. 8 Munselle was dry and abandoned at 1,282 feet. Anna B. Gordon's No. 5-A Cannona had an initial production of 100 bbls. at 1,188-1,204 feet. Hart Petroleum Co.'s No. 1 McHan was dry and abandoned at 2,075 feet. Michael & Gibson-Johnson's No. 1 Hickman had an initial production of 12 bbls. at 1,246-49 feet. S. B. Owens' No. 1 Whiteside had an initial production of 42 bbls. at 1,312-20 feet. E. L. Smith's No. 30 George had an initial production of 150 bbls. at 1,303-25 feet. His No. 31 George had an initial production of 150 bbls. at 1,291-1,351 feet. Young Brothers-Alexander and others' No. 23 Hickman had an initial production of 120 bbls. at 1,321-30 feet, after having been shot with 20 quarts. Prasky and others' No. 1 Evans was dry and abandoned at 725 feet.

Callahan County

States Oil Corp.'s No. 1 Allen was dry and abandoned at 1,756 feet.

Coleman County

Texas-American Syndicate's No. 2 Newton had an initial production of 15,500,000 feet of gas at 3,818-30 feet. Tower-McKanna's No. 1 Crowder had an initial production of 30 bbls. at 2,017-20 feet. The rig was abandoned on their No. 7 Crowder. Atlantic and others' No. 1 Gates was dry and abandoned at 2,852 feet. Taylor-Link's No. 2 Stewardson had an initial production of 32 bbls. at 1,468-70 feet.

Eastland County

Hoffman & Page's No. 4-B Foster had an initial production of 27 bbls. at 2,128-95 feet. Arab Gas Corp.'s No. 1 Dakan had an initial production of 1,200,000 feet of gas at 3,740-3,800 feet. Bearman and others' No. 1 Kincade had an initial production of 220 bbls. at 3,549-73 feet. Hopkins' No. 2 Jones was dry and abandoned at 3,955 feet.

Palo Pinto County

Burton-McKee's No. 7 Strawn Coal Co. had an initial production of 1,099,000 feet of gas at 3,007-14 feet. Texas Pacific Coal & Oil Co.'s No. 163 Stuard & Son had an initial production of 57 bbls. at 1,589-1,607 feet.

Stephens County

Grantor Oil Co.'s No. 37 Swenson was shot with 70 quarts at 1,750-86 feet and had an initial production of 30 bbls. Nunn & Herman's No. 1 Langford was dry and abandoned at 2,200 feet.

Shackelford County

Phil French's No. 1 Dawson was dry and abandoned at 1,765 feet. The location was abandoned on Frizzell & Smally's No. 3 Alex. Hart & Gist's No. 3 Clark was dry and abandoned at 700 feet. L. B. Tannehill's No. 28 Newell had an initial production of 30 bbls. at 913-23 feet.

STEEL INDUSTRY LOOKS FOR JANUARY REBOUND

By B. E. V. Luty

PITTSBURGH, Pa., Dec. 16.—The decrease in steel production during November was somewhat greater than currently estimated, for the official report just issued shows production at 68.90 per cent of rated capacity, against 85.21 per cent for October, or a drop of nearly one-fifth. A continuance of that rate of drop would make about 55 per cent for the month of December and as last week's rate was not much above that, and some plants will probably close for all of next week, on account of Christmas falling in the middle, the official report for the month may easily show 50 per cent or even less. Just at the moment finishing mill operations are not down as low as steel ingot production, as stocks of ingots and semifinished steel are being liquidated.

Pipe mill operations, which held up fairly well for a time, better than might be expected for the season of year, can hardly be rated now at over 35 to 40 per cent. The tube mills are doing a little better than the pipe mills.

It was on account of the heavy seasonal buying of rails that the Steel Corp. showed increases in its unfilled obligations of 183,981 tons in October and 38,783 tons in November, or 222,764 tons for the two months. During those two months orders totalling just a million tons were reported and the Steel Corp. would receive at least half, or fully 500,000 tons, while rail shipments were relatively small, although they are running heavy this month.

The new idea in the trade, now that steel production has been dropping off so sharply, is that the matter will have been well shaken out by the end of the year, whereby there would be opportunity for an upward rebound in January. Increases during the first three or four months of a year are the usual thing and are seasonal.

The rail mills are very well filled with orders, rail buying having been exceptionally early this year while it is some 15 per cent heavier than last year. Structural fabricating shops are well filled with business, having booked 18 per cent more tonnage in the first ten months of this year than in the same period last year, while they shipped 10 per cent less than they booked. New business since November 1, has been about 40 per cent under the previous average, since the first of the year. Freight car shops are fairly well filled with orders. The farm implement industry is running well and expects to continue so. These are the active lines. The automobile industry is the dullest, other lines falling between.

Finished steel prices are holding quite well on the whole and better than might have been expected, but there are now reports of some irregularities in prices of standard or merchant pipe.

Special Meeting of Ohio Stockholders

To Consider Increase in Capital and Exchange of New Stock for Illinois Pipe Line Co. Indiana May Be Listed

Ohio Oil Co. has called a special meeting of stockholders for December 30 to vote on increase in capital stock by issue of a new 6 per cent preferred and to exchange the new stock for that of the Illinois Pipe Line Co.

Stockholders will vote on creation of 600,000 shares of 6 per cent cumulative preferred stock, $100 par, which will be offered to Illinois Pipe Line on the basis of three shares of the new stock for each share of Illinois Pipe Line.

Illinois Pipe Line has outstanding $20,000,000 of capital stock, of 200,000 shares of $100 par, which, if plan is approved, will be exchanged for the entire issue of the new 6 per cent preferred of Ohio Oil. Ohio Oil Co. has outstanding 2,400,000 shares of $25 par common.

If the proposed acquisition by Ohio Oil Co. is approved by stockholders, it will bring back to the former company the pipe line properties of which it divested itself in 1915.

On January 2, 1915, it distributed to its stockholders the $20,000,000 stock of the Illinois Pipe Line Co., which had been formed to take over its pipe line activities. The distribution was made on the basis of one share of Illinois Pipe stock of $100 par for every three shares of Ohio Oil Co. of $25 par.

The segregation was not made as a result of the Standard Oil dissolution decree, but followed a ruling under the Interstate Commerce Act which declared pipe line companies to be common carriers. Hence, no question arises as to the attitude of the Department of Justice on the present merger.

The course of earnings of Illinois Pipe Line available for dividends in the past seven years, and the book value at the end of the year, is showing in the following table:

	Net Income	Per Share	Book Value
1928	$4,336,387	$21.68	$144.77
1927	3,812,827	19.06	139.09
1926	2,990,423	14.95	132.03
1925	3,855,554	19.27	129.08
1924	2,401,302	12.02	121.80
1923	2,233,200	11.17	121.79
1922	2,806,256	14.04	121.63

Offering of a preferred stock to Illinois Pipe stockholders in exchange for their holdings has had a recent precedent among Standard Oil companies. Standard Oil Export Corp., owned by four subsidiaries of Standard Oil Co. of New Jersey, recently made an offer of a $5 preferred stock, with dividend guaranteed by the several companies, for stock of Anglo-American Oil Co.

The present proposed merger may point the way to another of a similar order. At the time Ohio Oil Co. segregated its pipe line holdings, in January, 1915, the Prairie Oil & Gas Co., took the same action. It formed Prairie Pipe Line Co. to take over the operation of its pipeline system and distributed to Prairie Oil stockholders the $27,000,000 of Prairie Pipe Line Co. stock as a 150 per cent stock dividend.

Phillips Petroleum Co.

Phillips Petroleum Co., through the listing of additional shares on the New York Stock Exchange, has revealed the acquisition of seven oil companies as part of its expansion program.

The listing shows 6,000 shares being issues as part payment for certain properties of E. M. Wilhoit and E. M. Wilhoit Oil Co.; 19,000 shares for certain properties of the Operators' Oil Co., and the Danciger Oil & Refining Co. of Texas, 10,000 shares in payment for all properties and assets of the Winters Oil Co. and J. S. Winters, 4,000 shares as part payment for certain properties of the States Oil Co., 1,812 shares as full payment for certain properties of the Morrison Oil Co., and 17,975 shares as full payment for properties and assets of the John Hancock Oil Co.

The full consideration in payment for E. M. Wilhoit and the E. M. Wilhoit Oil Co. will include $100,000 of Phillips Petroleum 5¼ per cent bonds and $53,750 in cash. The full consideration in the Operators' Oil and Danciger Oil deals will include a cash payment of $400,000. On the State Oil acquisition, another $50,000 in cash will be paid.

The total new listing of Phillips Petroleum comprises 58,787 shares for its acquisitions, 78,256 shares to be issued to employes and 127,206 shares issued as a stock dividend, a total of 264,249 new shares.

British-American Oil

S. R. Parsons, chairman of British-American Oil Co., stated following the meeting of directors recently, at which an extra dividend of 50 cents was declared in addition to the regular quarterly dividend of 25 cents, that directors

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of New York Stock Exchange, Kennedy Building, Tulsa, Okla.

1929 High	1929 Low	Week ended Dec. 11 Sales	Week ended Dec. 11 High	Week ended Dec. 11 Low	Week ended Dec. 11 Close	Stocks—	Outstanding capital	Par value	Div. rate	Last paid	1926 High	1926 Low	1927 High	1927 Low	1928 High	1928 Low
42⅝	17½	1,500	21⅝	21¼	21½	Amerada Corp.	(sh) 922,075	N.P.	50cQ	7-31-29	32⅞	24¼	37⅝	27⅝	43⅞	27⅛
64¾	12½	500	25⅞	24	24	American Republics Corp.	(sh) 209,180	N.P.	.....	3-20-29	74	39⅞	82⅛	35⅛	85	51⅛
47¼	40½	No sales.				Associated Oil	$57,260,300	$25	50cQ	9-30-29	60	44¾	50¼	35	53⅜	37½
77⅞	30	15,800	43	41⅝	41⅝	Atlantic Refining	$50,000,000	$25	25cQ*	9-16-29	128⅜	97	131⅝	104	66⅜	50
49⅛	20	21,600	27⅝	26¼	27	Barnsdall Corp.	$45,235,650	$25	50cQ	8- 6-29	33½	23½	35½	20¾	53	20
47¼	18	16,500	27½	26½	27	Continental Oil of Delaware	(sh) 4,741,554	N.P.	.....	3-31-27	..	..	..	..	..	..
94¾	42¼	4,300	55¾	54	54	General Asphalt	$20,785,400	$100	.....	.....	94½	50	96¾	65	94⅞	68
109	23	7,200	64	59	60½	Houston Oil	$25,000,000	$100	.....	.....	72	50¼	175¾	60⅛	167	79
39⅜	17¾	4,600	24⅞	24⅛	24¾	Independent Oil & Gas	(sh) 1,333,572	N.P.	50cQ	7-31-29	34	19⅝	32¾	17⅝	38⅜	21¾
53	13⅛	11,100	22⅝	20⅝	21⅜	Indian Refining	$12,307,370	$10	.....	5-31-24	12¾	7½	12⅛	7⅝	39⅝	9
38⅜	16½	300	21⅝	21	21⅝	Lago Oil & Transport	(sh) 3,992,122	N.P.	.....	5- 1-27	25⅞	16½	37¾	20½	39⅛	27¾
18	7	1,600	9⅝	9½	9½	Louisiana Oil Refining	(sh) 1,190,063	N.P.	.....	.....	19⅞	12	18⅛	10	19¾	9⅜
18½	7½	600	8¼	8	8¼	Maracaibo Oil	(sh) 330,000	N.P.	.....	.....	28	16½	22¾	12	25½	12½
69⅜	9¼	29,500	22⅞	19⅜	21	Mexican Seaboard	(sh) 1,276,873	N.P.	.....	12-15-20	13¾	6	9¼	3	73	4⅝
39⅞	22⅛	2,200	29⅛	28⅞	28⅞	Mid-Continent Petroleum	(sh) 1,857,912	N.P.	50cQ	8-15-29	37	20½	39⅜	25½	44½	25⅛
5⅛	1½	No sales.				Middle States Oil	$24,298,850	$10	.....	7- 1-23	2½	½	3¾	1⅝	7⅜	2⅜
69	40¼	600	60	60	60	Pan American P. & T.	$50,084,700	$50	.....	10-20-27	76½	56⅛	65⅞	40⅛	54⅞	38¼
69¼	40½	1,200	61	60	60	Pan American P. & T. "B"	$121,105,050	$50	.....	11-15-24	78⅜	56⅞	66⅜	40¼	58⅞	37⅜
18½	13⅝	No sales.				Pan American Western "B"	(sh) 400,000	N.P.	.....	1-30-27	46	30	37⅞	16¾	28⅜	15½
15¼	3	1,300	6½	6	6	Panhandle P. & R.	(sh) 199,370	N.P.	.....	.....	32	4½	18⅞	8	21¾	11½
76	47½	No sales.				Panhandle P. & R. pfd.	$2,564.400	$100	37½cQ	7- 2-23	99⅜	51	83	54	108	70
47	24¼	7,700	39⅜	38½	39	Phillips Petroleum	(sh) 2,406,796	N.P.	37½cQ	10- 2-29	57⅜	40	60¼	36¼	53⅞	35¼
3⅜	1	200	1⅛	1⅛	1⅛	Pierce Oil Corp.	$29,622,831	$25	.....	.....	..	..	1⅛	½	5¼	⅛
5⅞	½	500	2⅞	2¾	2⅞	Pierce Petroleum	(sh) 2,500,000	N.P.	.....	.....	7	2¼	5½	2½	7	3½
65⅝	40½	2,900	56⅝	55½	56⅛	Prairie Oil & Gas	$61.720,125	$25	50cQ*	9-30-29	60¼	48	55½	45⅝	68	46
65	45	700	59¼	59⅛	59⅛	Prairie Pipe Line	$101,250,000	$25	75cQ†	9-30-29	137½	122½	190	130¾	280	172
25⅞	4	300	10⅝	10½	10⅝	Producers & Refiners	$37,438,950	$50	.....	9-15-23	20¾	11	33⅞	16¾	29⅞	16
46¾	30	No sales.				Producers & Refiners pfd.	$2,845,350	$50	37½Q	5- 1-25	41¾	30¾	50	36⅞	49⅝	41
30¾	20	15,400	24¾	23⅞	24⅛	Pure Oil	$75,959,250	$25	37½Q	9- 2-29	31	25¼	33½	25	31⅝	19
49⅝	20	2,000	29⅜	29⅛	29⅛	Richfield Oil	$47,964,650	$25	50cQ	8-15-29	27½	22	28⅝	25⅜	56	23
42½	15	3,300	21⅞	21	21	Rio Grande Oil	(sh) 1,200,000	N.P.	$2.00A	7-25-29	..	..	..	..	37½	32
64	43⅛	8,900	54⅛	53	53	Royal Dutch, N. Y.	(sh) 611,303	$13.40	.....	8-13-29	57⅜	47⅜	54½	44¼	64	44⅝
55	43⅜	No sales.				Shell Transport & Trad.	£19,654,274	£1	$1.45	7-23-29	48⅝	40½	47⅞	41⅜	57½	40⅝
31¾	19	5,300	24⅛	23½	24	Shell Union Oil	(sh) 13,000,000	N.P.	35cQ	9-30-29	31	24	31¾	24⅝	39¼	23¼
40⅛	15	2,800	29⅝	27¾	29	Simms Petroleum	$8,060,380	$10	40cQ	9-14-29	25⅝	15⅛	25⅜	14¼	27¼	18⅛
45	21	27,000	28	27	27¼	Sinclair Consolidated	(sh) 5,500,000	N.P.	50cQ*	10-15-29	24⅞	15¾	22⅝	15	46¾	17⅜
111	103	300	109⅛	109	109⅛	Sinclair Consolidated pfd.	$16,025,250	$100	$2Q	8-15-29	99½	90	104½	97	110	102½
46½	28	3,100	33¾	32¾	33½	Skelly Oil	$27,237,750	$25	50cQ	9-16-29	37⅛	26⅝	37⅝	24⅛	42⅝	25
81⅞	51½	5,100	64⅞	63⅝	63⅝	Standard Oil of Cal.	(sh) 12,594,098	N.P.	62½cQ	9-16-29	63⅝	51½	60¾	50⅜	80	53
83	48	62,700	69⅜	67½	67½	Standard Oil of N. J.	$620,079,800	$25	25cQ*	9-16-29	46⅜	37½	41⅜	35⅛	59⅜	37¾
48⅛	31¾	10,800	36⅛	35	35⅝	Standard Oil of N. Y.	$434,094,575	$25	40cQ	9-16-29	47¼	30⅜	34⅛	29¾	44¼	28¾
86⅜	55½	300	62	61½	62	Sun Oil	(sh) 1,297,627	N.P.	25cQ	9-16-29	41¾	30⅛	34⅞	30	77	31½
24	5¼	12,200	8½	7½	8⅛	Superior Oil Corp.	(sh) 2,324,938	N.P.	.....	12-20-20	..	..	..	..	..	..
71⅞	50	5,100	59	57⅞	58	The Texas Corporation	$211,076,650	$25	75cQ	10- 1-29	58	48	58	45	74¾	50
23⅞	9½	2,800	12	11¼	11½	Texas Pacific Coal & Oil Co.	$8,380,340	$10	5A‡	1- 3-28	19½	12	18⅞	12	26⅝	12⅛
40	14	No sales.				Tide Water Oil	(sh) 2,191,759	N.P.	20cQ	9-30-29	39¼	27	29⅛	19	41½	19⅝
97½	85⅛	No sales.				Tide Water Oil 5½% pfd.	$20,705,200	$100	$1.25Q	8-15-29	103	87¼	90⅛	85	100⅛	86
23½	10	4,400	14	13½	13½	Tide Water Associated	(sh) 4,796,158	N.P.	.....	8- 1-27	27	20⅞	19⅛	15¾	25	14¾
90⅞	74⅛	900	82⅛	81⅜	82⅛	Tide Water Associated pfd.	$72,844,300	...	$1.50Q	10- 1-29	..	..	..	..	..	..
15¼	5⅛	13,300	9¼	8⅞	9	Transcontinental Oil	(sh) 3,742,029	N.P.	.....	.....	5½	3	10⅜	3¾	14¾	7¼
57	42⅛	800	46½	46½	46½	Union Oil of California	$94,798,100	$25	50cQ	8-10-29	58⅜	37¼	56½	39⅝	58	42¾
163¾	121⅞	200	143	142	142	Union Tank Car	$31,061,200	$100	$1.25Q	9- 3-29	120⅜	84¼	127½	94	128½	110
42⅞	15	7,100	24½	24	24¼	Warner-Quinlan	(sh) 356,000	N.P.	50cQ	10- 1-29	30⅛	23½	34½	24½	44⅞	26
38	25	500	28½	28½	28½	White Eagle Oil & Refining	(sh) 490,000	N.P.	50cQ	10-21-29	29¾	25⅛	27½	20	38	20⅛
29¾	12⅞	500	15¼	15	15¼	Wilcox Oil & Gas	(sh) 2,400,000	N.P.	.....	5-10-28	..	..	..	..	..	.

*Plus extra dividend of 25 cents. †Plus extra dividend of 50 cents. ‡Payable in stock. x Ex-dividend.

"also agreed that at the time of the annual meeting of the company, held usually about February 20, when reports for the year would be completed, the directors would give further consideration to the interests of stockholders."

White Eagle Oil

White Eagle Oil and Refining Co. has declared the regular quarterly dividend of 50 cents a share, payable January 20, 1930, to stockholders of record December 31, 1929.

Union Oil

Statement of Union Oil Co. of California, including 50 per cent interest in Union Atlantic Co., as of June 30, 1929. shows total assets of $361,932,996 compared with $342,242,380 on December 31, 1928, and total surplus $70,892,661, including appreciation of $40,878,5559 in proven oil properties, against $64,103,-834. Current assets were $66,251,279 and current liabilities $10,235,032 as compared with $56,793,188 and $11,465,-631, respectively, at end of 1928.

Lone Star Gas

Lone Star Gas Corp. declared regular quarterly dividend of 20 cents on common, payable December 31 to stock of record December 20.

White Star Refining

Earnings of White Star Refining Co. for 1929 are estimated at around $2,-900,000 after all deductions, or better than $9 a share on the 320,000 shares of no-par common stock, according to H. B. Earhart, president. This would compare with $1,522,456 after charges and taxes, or $4.75 a share, for 1928.

It is understood applications to list the stock on New York Stock Exchange will be made in the near future.

Southern Union Gas

Southern Union Gas. Co. has acquired 90 per cent of the common stock of Arkansas Western Gas Co., serving population of about 30,000 in Arkansas. Earnings for 1929 available for interest, depreciation, depletion and federal taxes are estimated $265,300. Southern Union Gas has additional expansion under way in the Southwest.

Italo-American

Italo Petroleum Corp. of America and subsidiaries for ten months ended October 31, 1929, reports profit of $650,331. Gross sales were $2,714,315, with production and administrative expenses totaling $538,187. Interest was $115,994, other charges $19,730; depletion, depreciation and abandonments, $1,390,073.

Earnings of company have been applied to further development of its properties and to reducing its liabilities, which were cut $1,285,672 between May 1, 1929, and October 31, 1929, according to R. S. McKeon, secretary.

Chestnut & Smith

Chestnut & Smith Corp., which produces and refines crude oil, declared an initial dividend of $5.75 on the 7 per cent cumulative preferred stock, payable to stock of record December 4.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petro-

INDEPENDENT OILS ON NEW YORK CURB

Quotations Compiled by Francis. Bro. & Co., Members of New York Curb Market, Kennedy Building, Tulsa, Okla.

1929 High	1929 Low	Week ended Dec. 11 Sales	High	Low	Close	Stocks—		Outstanding capital	Par value	Div. rate	Last paid	1926 High	1926 Low	1927 High	1927 Low	1928 High	1928 Low
¾	⅛	2,500	⅛	⅛	⅛	Amer. Con. Oilfields		$11,018,000	$5	.....	.....	$6.75	.45	2 7/16	.55	1½	.53
8⅝	1⅛	300	1¾	1¾	1¾	Amer. Maracaibo	(sh)	700,000	N.P.	.....	.....	..	..	7½	2¾	9½	3⅛
5	1⅛	No sales.				Argo Oil	(sh)	683,971	$10	.....	.....	..	..	2¾	1	4½	2¼
62	7⅛	No sales.				British-American	(sh)	1,311,321	N.P.	25cQ	10- 1-29	85¼	60	40	20½	55	32¾
4⅞	1	100	1⅛	1⅛	1⅛	Carib. Syndicate		$131,250	25c	.....	.....	28⅜	9¼	28¼	15½	4½	3⅞
68⅛	20	21,600	30	29⅝	30	Cities Service	(sh)	24,290.359	N.P.	30cQ*	11- 1-29	..	..	58¾	40¼	90⅞	54
98¾	84	100	89⅞	89⅝	89⅞	Cities Service pfd.	(sh)	1,500,000	N.P.	50cM	11- 1-29	..	..	95⅜	87	103½	94½
2	¼	500	⅜	1/16	⅜	Colombia Syndicate		$2,000,000	$1	.....	.....	3½	1¾	3⅞	1⅛	3¼	.76
11¼	2½	No sales.				Cons. Royalty		$5,000,000	$10	15cQ	.....	..	..	9¾	6⅜	8⅞	6¼
11¾	5⅝	5,100	6¾	6⅝	6¾	Creole Petroleum	(sh)	5,977.873	N.P.	.....	.....	16	10	14⅞	9½	17½	9½
2½	⅝	100	⅝	⅝	⅝	Crown Central	(sh)	578,000	N.P.	.....	.....	..	..	3	.50	3¼	.76
26	6½	1,100	9¼	9⅛	9¼	Darby Petroleum	(sh)	1,019,392	N.P.	25cQ	10-15-29	7⅞	6¾	12	4	33½	3¼
11	2	100	5¼	5¼	5¼	Derby Oil & Refining	(sh)	500,000	N.P.	.....	.....	..	..	2½	74	2¼	1
44	20⅞	No sales.				Derby Oil & Refining pfd.	(sh)	48,500	N.P.	.....	.....	..	..	16¾	4	21⅛	7½
209	115	1,000	154¾	148	153⅜	Gulf Oil Corp.	(sh)	4,504,921	$25	37½cQ	10- 1-29	98	92	118	86¼	165	101⅛
2⅞	⅜	200	1⅛	⅞	1	Intercontinental Pet.		$5,682,000	$5	.....	.....	$3.00	.83	2½	.80	3⅜	1
3⅝	1¼	No sales.				Kirby Petroleum	(sh)	750,000	N.P.	.....	.....	..	..	2¼	1⅛	3	1¼
6⅛	2	500	2⅛	2	2	Leonard Oil & Dev.		$50,000.000	$25	.....	.....	12¼	5⅜	10⅞	5⅛	9⅜	5⅛
38⅞	18	No sales.				Lion Oil & Refining	(sh)	250,000	N.P.	50cQ	10-27-29	27	20	27½	20	43⅞	20
67⅞	28	500	39¼	39	39¼	Lone Star Gas	(sh)	5,000,000	N.P.	20cQ	9-30-29	46	30	59⅜	37	62⅛	48½
1¼	¼	100	¼	¼	¼	Magdalena Syndicate	(sh)	850,000	$1	.....	.....	2⅞	1	2⅞	.80	1⅞	.50
38½	17¾	No sales.				Margay Oil	(sh)	160,000	N.P.	50cQ	10-10-29	34	12½	52	12	48½	32
6⅜	2½	200	3¼	3¼	3¼	Mexico-Ohio Oil		.....	...	.....	.....	8	5½	12⅛	5	8	2¾
1½	¼	100	½	½	½	Mountain & Gulf		$4.000.000	$1	2cQ	10-15-29	1¾	1⅛	1½	1	1¾	.76
22⅞	7	1,100	10⅜	10	10⅜	Mountain Producers		$1,682,182	$10	40cQ	10- 1-29	26	23	29¼	22¾	28⅛	19½
5	2¼	100	3⅛	3⅛	3⅛	New Bradford Oil		$1,095.291	$5	12½cQ	10-15-20	6⅝	5	5⅞	4⅝	5⅝	4¼
9⅜	2¼	800	3⅞	3¼	3⅞	New Mex. & Arizona		$1.000,000	$1	.....	.....	..	..	16	9¼	11⅞	7⅛
18½	6⅛	100	9	9	9	North Central Texas	(sh)	400,000	N.P.	15cQ	9- 3-29	..	..	12¾	9½	14¼	8½
3½	½	100	11/16	11/16	11/16	Pandem	(sh)	489,875	N.P.	.....	.....	10⅛	5⅞	9⅜	3¼	6	2⅛
10¼	2⅝	2,100	3¼	3	3⅛	Pantapec Oil	(sh)	1,506,600	N.P.	.....	.....	12¼	11¾	12⅛	7	15⅝	8½
7¾	4⅝	No sales.				Pennok Oil	(sh)	150,000	N.P.	.....	.....	22¾	12	13½	5⅛	7¾	4⅞
16	9⅝	100	9⅝	9⅝	9⅝	Red Bank Oil	(sh)	250,000	N.P.	.....	.....	17	8½	24⅜	7	18	4⅞
8½	1⅛	2,000	3¼	3⅛	3¼	Reiter-Foster	(sh)	388.584	N.P.	10cQ	9- 1-29	30¼	12	15½	3½	12⅞	4⅛
11	3	200	4	3⅞	3⅞	Ryan Consolidated	(sh)	500,000	N.P.	.....	.....	7	4½	7	4½	12	4⅛
5⅞	1⅞	No sales.				Salt Creek Consolidated	(sh)	1,286.300	$10	10cQ	10- 1-29	10	7⅛	8	5¼	7¼	5½
25⅞	9	600	12¾	12½	12½	Salt Creek Producers	(sh)	1.496.859	$10	50cQ	11- 1-29	35	24⅛	35½	27¼	35	23⅛
2½	1/16	No sales.				Savoy Oil		$750,000	$5	.....	.....	6⅞	1¼	7	1¼	3½	1
145	82	No sales.				Transcontinental pfd.	(sh)	157,500	$100	.....	.....	92	63½	92	63½	93¼	75
6½	1¾	900	2⅝	2½	2½	Venezuelan Petroleum	(sh)	755.090	$5	5cQ	8-15-29	8	4½	7⅜	4¼	9⅛	4¾
9½	2	No sales.				Woodley Petroleum		$500,000	$1	.....	.....	8⅛	5½	7	4¾	8¼	4⅞
2⅞	½	100	¾	¾	¾	"Y" Oil & Gas (new)	(sh)	100,000	N.P.	.....	.....	6½	6	6	1¾	8⅜	2⅛

*Including extra in stock.

STANDARD OIL STOCKS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Members of New York Curb Market, Kennedy Building, Tulsa, Okla.

1929 High	1929 Low	Week ended Dec. 11 Sales	High	Low	Close	Stocks—	Outstanding capital	Par value	Div. rate	Last paid	1926 High	1926 Low	1927 High	1927 Low	1928 High	1928 Low
18	14	24,800	17	16¾	17	Anglo-American Oil	£4,192,635	£1	.....	6- 5-29	21	16	21⅝	17⅞	22⅝	14⅞
46½	25	No sales.				Borne Scrymser	$1,000,000	$25	$1S.A.	10-15-29	76	65	69	50	56½	44½
74¼	55	200	69½	69¼	69½	Buckeye Pipe Line	$10,000,000	$50	$1Q	9-14-29	59½	42	60	45	76	53
210	130	No sales.				Chesebrough Mfg.	$3,000,000	$25	$1Q*	9-30-29	82½	65	126	76½	161	117
29	8⅞	No sales.				Continental Oil	$36,057,840	$10	.....	12-15-27	25⅞	17½	22⅝	16¼	23	16
75¾	40	No sales.				Cumberland Pipe Line	$1,500,000	$50	$1Q	9-15-29	137	102	137	89	114	67
70½	42	300	49¾	49¾	49¾	Eureka Pipe Line	$5,000,000	$100	$1Q	11- 1-29	63¾	43	68½	47	88	64⅛
6⅝	5	No sales.				Galena Signal Oil	$16,000,000	$100	.....	.....	32½	9⅞	13½	3½	13	4¼
128	74⅛	100	90⅞	90⅛	90⅛	Humble Oil & Refining	$74,103.300	$25	30cQ†	10- 1-29	68½	52	68½	54	114¾	59¼
340½	260	400	325	324¾	325	Illinois Pipe Line	$20,000,000	$100	$10S.A.	6-15-29	144½	125½	182	123¾	290½	176½
41	22	1,000	29	28½	29	Imperial Oil Co., Ltd.	26,421,768	N.P.	12½cQ	9- 3-29	..	..	64¾	37¾	104	56¾
41⅞	26	500	41¾	40⅝	41¾	Indiana Pipe Line	$3,000,000	$10	50cQ‡	11-15-29	72½	58	94½	61	91⅞	74⅜
30¾	15	100	23½	23¼	23¼	International Pet.	14,247,088	N.P.	12½cQ	6-25-29	35½	28¾	29	28¼	55	35
25⅞	10½	200	22⅞	22⅜	22⅜	National Transit	$6,362.500	$12.50	25cQ	9-26-29	20¾	12½	24	13½	32⅜	19⅜
16	10	No sales.				New York Transit	$1,000,000	$10	40cQ	10-15-29	51½	27¼	44½	31¼	75	38½
63	41	100	52¼	52¼	52¼	Northern Pipe Line	$2,000.000	$50	$2S.A.	7- 1-29	80½	64	100	70	69	56½
79⅞	64⅛	800	71⅞	71½	71⅞	Ohio Oil	$60,000.000	$25	50cQ‡	9-16-29	67¾	55¾	67⅞	52	84	58½
44½	20	100	20⅜	20⅜	20⅜	Penn Mex. Fuel	$10,000.000	$25	50cQ	12-15-28	24¾	15	39	12	84	28
50	33	No sales.				Solar Refining	$4,000.000	$25	$1.25S.A.	6-20-29	..	..	..	..	..	..
22½	13	No sales.				Southern Pipe Line	$1,000.000	$10	50cQ	.....	74½	61½	27¼	15½	19	15
60¼	35⅛	No sales.				South Penn Oil (new)	$30,000,000	$25	50cQ	9-30-29	50	34½	41½	35	71⅞	36¾
70	60	No sales.				Southwest Pa. Pipe Lines	$1,750.000	$50	$1Q	10- 1-29	56	47½	83	55½	102	70
63	45	12,100	56	55½	55⅞	Standard Oil of Indiana	$348,175.069	$25	62½cQ	9-16-29	70½	60½	81½	64⅝	95⅞	70⅞
33¾	18	200	26¼	26	26	Standard Oil of Kansas	$8.000.000	$25	.....	6-16-24	36½	16½	20⅞	14⅝	37¾	15
46⅞	29	600	37	36¾	37	Standard Oil of Kentucky	$25,654,516	$10	40cQ	9-30-29	134⅜	108	130	111½	179¾	122¼
50¼	40	100	43⅝	43⅝	43⅝	Standard Oil of Nebraska	$4,649,225	$25	62½cQ‡	9-30-29	51⅜	42	49½	40	54⅞	39⅞
129	60	No sales.				Standard Oil of Ohio	$14,000,000	$25	62½cQ	10- 1-29	372	288	87½	72	134	71
18	10	No sales.				Swan-Finch Co.	$861,466	$25	.....	1-15-29	21	15	21	14½	23½	16
133¾	75	1,800	101⅞	100	100¼	Vacuum Oil Co.	$126,180,350	$25	$1Q	9-30-29	109⅜	90¼	..	..	111	72

*Plus 50 cents extra. †Plus 20 cents extra. ‡Plus 25 cents extra. x Ex-dividend.

leum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Saturday, was as follows:

July 5	56.52	Sept. 28	58.63
July 12	55.69	Oct. 5	57.00
July 19	56.83	Oct. 12	59.75
July 26	55.62	Oct. 19	58.70
Aug. 3	55.09	Oct. 26	54.59
Aug. 10	54.15	Oct. 31	42.29
Aug. 17	60.32	Nov. 8	48.31
Aug. 24	60.61	Nov. 15	47.61
Aug. 31	60.90	Nov. 22	47.76
Sept. 7	59.16	Nov. 29	48.60
Sept. 14	60.40	Dec. 4	50.60
Sept. 21	57.93	Dec. 11	50.51

Standard of Indiana

Directors of Standard Oil of Indiana are reported to have under consideration the advisability of listing its shares on the New York Stock Exchange. Over a period of sixteen years to the close of 1928, the company's net profit, after all deductions, including reserves, amounted to $550,272,549, an average of approximately $34,400,000 annually. Last year's net was the greatest in the company's history, totaling $77,337,166 after all charges, equal to $8.33 a share on the 9,284,668 shares of $25 par capital stock then outstanding.

The 1928 net included $21,821,870 extra dividend received from its subsidiary, Midwest Refining Co., equal to $2.35 a share on the Indiana company's capital stock. But even with the exclusion of this special amount, says the Wall Street Journal, earnings last year were still in excess of those in any preceding year, although the 1926 results of $55,098,764, equal to $6.03 a share on 9,136,618 shares, were not far short of the 1928 mark.

On the increased stock resulting from the 50 per cent stock dividend paid last March, the company has declared four quarterly dividends of 62½ cents each and two extra dividends, one of 50 cents and the other 25 cents. The latter extra dividend also applied on stock of Pan American Petroleum & Transport Co. exchanged under the offer of six shares for seven of the Indiana company.

Out of the total net profit of $550,272,549 for the past 16 years, $251,493,458, or 46 per cent, has been returned to stockholders in cash distributions. From 1914 onward the dividend total has grown steadily, totaling $32,416,528 in 1928. In addition, four stock dividends have been paid, including 2,900 per cent in 1912, the year following the Standard Oil Co. dissolution decree, 150 per cent in 1920, 100 per cent in 1922 and the 50 per cent this year.

Since 1912, a total of $298,779,091 out of earnings after cash dividend distributions has been carried to surplus for further investment in the business. The largest amount was taken to surplus in 1928, when the addition amounted to $44,920,638. In two years—1927, which was a poor year for the oil industry, and 1914—dividends were partly met out of surplus.

At the end of last year, Indiana had total capital investment of $470,060,682, including $8,598,378 of reserves, compared with less than one-eleventh of this amount at the close of 1912, or $40,216,046. The 1928 amount was equal to over $50 a share on the 9,284,668 shares of stock outstanding at the end of the year.

Total assets of $498,371,641 on December 31, 1928, compared with $43,934,687 at the end of 1912, an increase during 16 years of $454,036,954. The only liability, accounts payable, amounted to $28,310,959 at the end of 1928, compared with $3,718,641 at the close of 1912, an increase of $24,592,318. Net increase in assets was thus $429,844,636 in the 16 years.

Plant account is shown in the balance sheet at $121,583,883 on December 31, 1928, after the deduction of depreciation. The company does not state the amount of depreciation reserve for the past two years. Up to the end of 1926, this reserve totaled $49,704,351.

Holdings of securities in other companies aggregated $140,370,912 on December 31 last year, representing mainly the more than 99 per cent interest in Midwest Refining Co., total ownership of Dixie Oil Co., a subsidiary producing company, 50 per cent interest in Sinclair Pipe Line Co., 50 per cent interest in Sinclair Crude Oil Purchasing Co. and its control of Pan American Petroleum & Transport Co. through the Pan American Eastern Petroleum Corp. The balance sheet represents the cost at which they were acquired.

The Indiana company had surplus of $229,345,591 at the end of 1928, in contrast to the $10,216,046 on December 31, 1912. Reserves of $8,598,378 represent those other than depreciation.

All the company's development has been financed entirely from earnings: there are no bonds or preferred stock outstanding. Capital stock outstanding reflects the payment of various stock dividends since 1911 and the amounts issued in the acquisition of properties. Compared with $30,000,000 of $100 par outstanding at the end of 1912, the outstanding amount grew to $232,116,713 of $25 par, or 9,284,668 shares at the end of 1928.

With the payment of a 2,900 per cent stock dividend in 1912, outstanding stock was increased to $30,000,000 from $1,000,000. In 1920, when a considerable portion of Midwest Refining Co. stock was acquired, the balance being secured the following year, par was reduced to $25 from $100 and a 150 per cent stock dividend declared. In 1921 the 50 per cent interest in Sinclair Pipe Line Co. was acquired, and in 1922 the Indiana company declared a 100 per cent stock dividend, increasing authorized capital stock to $250,000,000.

When in September, 1927, authorized capital stock was increased to 15,000,000 shares from 10,000,000, stockholders approved exchange of 37,500 shares of Indiana stock for 150,000 shares of Pan American Eastern Petroleum Corp. In March this year a 50 per cent stock dividend was paid, and stockholders late in August ratified increase in authorized captal stock to 18,000,000 shares from 15,000,000 to provide for the exchange of stock for Pan American Petroleum & Transport Co. shares. The Indiana company has about 13,927,000 shares of stock at present outstanding, exclusive of the amount to be issued under the Pan American exchange, which will bring the total outstanding to more than 17,000,000 shares.

1930 OIL EXPOSITION SLATED FOR OCT. 4-11

The International Petroleum Exposition and Congress in 1930 will be held in Tulsa, October 4 to 11. This was decided at a meeting of the board of directors of the exposition held in Tulsa December 14.

The directors passed resolutions approving the work of the executive committee in 1929, and put the stamp of their approval on the action of the committee taken at a recent meeting in Chicago, when it met with representatives of the Natural Gas Department of the American Gas Association. It was recommended at that meeting that with consent and approval of the board of directors of the International Petroleum Exposition and the Natural Gas Department both organizations join in a greater exposition to be held in May, 1932, at which time the Natural Gas Department will hold its annual convention in Tulsa. The action taken in Chicago, having the approval of the exposition directors, now needs only the approval of the natural gas men. There will not be a petroleum exposition held in 1931.

Archie W. Leonard, vice president of the Devonian Oil Co., was re-elected chairman of the executive committee. D. D. Wertzberger, president of the Wertzberger Derrick Co., was re-elected chairman of the committee on building and grounds. The executive committee is composed of A. W. Leonard, chairman; D. D. Wertzberger, Frank P. Hinderliter, vice president of the Hinderliter Tool Co., and O. T. Dawson, National Supply Co.

William B. Way, general manager of the exposition, and his assistant, Victor Shenk, were commended for their excellent work in making the sixth petroleum exposition such a marked success.

The annual election of directors and officers will be held in Tulsa on Tuesday, January 14.

W. G. Skelly, president of the Skelly Oil Co. and president of the International Petroleum Exposition and Congress, presided at the meeting, which was attended by the following directors: A. F. Bourne, W. M. Bovaird, J. H. Brooks, O. T. Dawson, C. P. Dimit, John M. Egan, George A. Dye, J. Burr Gibbons, P. D. Hayes, J. Monte Hayner, Alf G. Heggem, William Holden, Frank P. Hinderliter, Barney E. Horrigan, Fred W. Insull, A. W. Leonard, Clyde Pape, Waite Phillips, R. C. Sharp, J. S. Sidwell, W. G. Skelly, D. D. Wertzberger, W. A. Schlueter and Harry J. Morlang.

TESTS NOW NEARING ALBANY AND CISCO

(Continued from Page 44)

been producing from shallow sands for several years, but production was not found in the central and northern parts of Shackelford County until Charles F. Roeser and T. T. Pendleton drilled in their discovery well in Section 85, E.T. R.R. Survey, on the Cook ranch, approximately 4 miles northwest of the town of Albany on February 18, 1926. Total depth of this discovery is 1,220 feet, the pay formation being sand which took its name from the ranch, and has been used as a marker in Shackelford and counties to the west since the discovery of oil in this area. Gravity of the oil in the Cook Pool runs from 39 to 40 and the crude brings around $1.60 a barrel, the Humble Pipe Line Co. taking the majority of the production from the pool. This company has a small lease in the pool on which there are 16 producing wells at present, and the combined total of the Roeser & Pendleton and Continental Oil Co and Humble Oil & Refining Co. leases has run about 8,000,000 bbls. of crude oil since the opening of the pool, and 9,500,000 gallons of gasoline run from the Roeser & Pendleton gasoline plant in the pool. The best wells of the pool are in Section 61 to the northeast of the discovery.

The owners are not wasting one particle of gas from this pool for it is all used in repressuring the producing wells and helping to keep them from slumping in production, one reason for this pool being one of the best in North Central Texas.

Production is scattered from the Cook Pool, south to the Tannehill and Reynolds Pools, the latter about 3½ miles distant, and Roeser & Pendleton have about 400 bbls. daily production from their Reynolds lease in Section 13. This pool is producing from the Hope sand, the gravity of the oil running from 38 to 39 and the Texas Pipe Line Co. is taking most of the production. Roeser & Pendleton erected a gasoline plant in this pool, but there has never been enough gas produced for profitable operation of the plant and it has been shut down for some time. The plant will probably be dismantled and moved to some other pool where it can be successfully used and needed to handle the gas production.

Cisco Town Lots

While writing of the possibility of town lot drilling in Albany, Shackelford County, Cisco town lot drilling may also be mentioned as a possibility, for the last derrick to be rigged up on a test going down to the Lake sand is but a stone's throw from the doorstep of some of the Cisco dwellings in Eastland County, and citizens of that village may also be seeking permits to drill on their vacant lots if the Annabelle Oil Co.'s test on the Paschal tract proves a producer. This location is 550 feet from the north and 598 feet from the east lines of the 24.6-acre Paschal farm, approximately three-quarters of a mile south of the Bearman and others' No. 1 Kincaid, the discovery well which is in the E half NE, Section 80.

The bearman well was completed about five weeks ago at a total depth of 3,573 feet after topping the Lake sand at 3,480 feet and the lime at 3,538 feet. An initial production of 200 bbls. daily was given this discovery, the gravity of the oil testing better than 36. The first oil show was found at 3,403 feet with an increase registered at 3,476 feet and the big pay at 3,480 feet. The nearest production is in Mayhew and others' (Hutton's) No. 1 Luse in the NW cor., Section 66, a mile southeast of the town of Cisco. This well was first completed on February 3, 1924, at a total depth of 3,548 feet, after being plugged back to 3,483 feet. Later it was deepened and completed the second time on August 8, 1924, at the new depth of 3,615 feet. The initial gauge was given as 15 bbls. Since that time it has been pumped intermittently, yielding a small amount of oil from time to time. The rig is still standing over the well, and makes a conspicuous landmark for the city of Cisco. Elevation of this test is 1,671.33 feet, on the surface. The accompanying plat shows the location of the Bearman discovery, the old well in Secction 66 and the new location of the Annabelle Oil Co. in the southern part of Section 80.

Offsets to Bearman

Two locations offsetting the Bearman discovery have been reported, but so far no activity has taken place on them, and they might not be drilled until later, although the Humble Pipe Line Co. has a small line into the Bearman well which is taking the production and probably would connect to any new wells being completed as the high gravity of this oil makes it especially desirable. It is understood the Phillips Petroleum Corp. is taking the gas from the discovery and running it to its gasoline plant in the Ibex Pool several miles to the northwest. The gas in this well gauged 66,200,000 feet when the well was completed, and the high gasoline content makes it also desirable.

Albany and Cisco citizens are closely watching the outcome of the new tests in their respective vicinities, and some of the town lots have already been leased for possible drilling. Spudding machines will be used in Albany due to the oil being found at such shallow depths, but Cisco will be decidedly marked if the standard derricks are allowed to move in on various lots in different parts of the city, for the deep drilling to the Lake sand demands heavier machinery for drilling purposes.

SANDERSON SUCCEEDS DIMIT

The recent resignation of Charles P. Dimit, superintendent of production for the Gypsy Oil Co., who is now vice president in charge of production for the Independent Oil & Gas Co., resulted in the promotion of S. G. Sanderson to succeed Mr. Dimit in the Gypsy organization. S. G. Sanderson has been with the Gulf Oil Corp. since 1913. He started in the Gypsy Oil Co.'s casinghead gasoline department at Kiefer, Okla. Later he was sent to Louisiana in charge of plant construction and operation for the Gulf Refining Co. of Louisiana. Following the death of W. C. Donovan, head of the Gypsy Oil Co.'s natural gasoline department, Mr. Sanderson returned to Tulsa to succeed Mr. Donovan and later was placed in charge of all the Gulf natural gasoline plants in Oklahoma, Texas and Louisiana. When the natural gasoline division was merged with the production department, Mr. Sanderson was made assistant to C. P. Dimit and held that position until his recent promotion to the superintendency. He will have H. C. Davis, F. R. Smith and W. H. Case as assistants.

W. W. DONNELLY DIES

W. W. Donnelly, president of the Federal Supply Co. of Texas, and brother of R. D. Donnelly and Arthur T. Donnelly, Tulsa oil men, died at his Fort Worth home Wednesday morning.

Mr. Donnelly was widely known throughout the Mid-Continent fields, having been identified with nearly every important field in North Texas and Central Oklahoma.

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Wagner Supply Co., Fort Worth, Cross Plains, Breckenridge, Irasn, Wink, Forsan and Odessa, Texas.

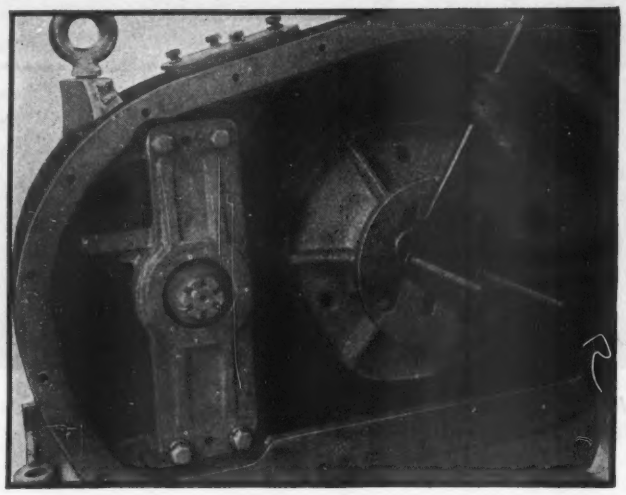
United Pipe & Supply Co., Charleston, W. Va., Paintsville, Ky.
W. K. Henderson Iron Works & Supply Co., Shreveport, La.
Pelican Well Tool & Supply Co., Shreveport, La.

United Oil Well Supply Co., 712 A. G. Bartlett Bldg., Los Angeles, Calif.
Great Northern Tool & Supply Co., Billings and Kevin, Mont., Kemmerer and Cody, Wyo.

CHESTER
STEEL LINE PIPE
SPECIALISTS IN CASING FOR DEEP WELL DRILLING
CASING

REASONS
Why
Westinghouse
-Nuttall Gears
Improve Electrical
Pumping

One of the change gears being removed.



Fifty different speeds with every unit

CONDITIONS in wells sometimes so change that the pumping speed also has to be changed in order to get the best production results. With Westinghouse-Nuttall double reduction gears, this can be done simply and quickly.

By the "change gear" feature provided exclusively in these units, fifty or more different speeds can be obtained without the slightest interference with the most efficient speed of the motor.

Any desired speed is obtained merely by replacing one gear and one pinion with those of another ratio. This can be done at the well without even disconnecting the pitman or the motor from the unit, and within two hours operation can be resumed. A large wrench and a puller plate—the only special tools required—are supplied with every unit.

This wide adaptability adds greatly to the economy as well as to the convenience of pumping equipment.

Detailed information on Westinghouse-Nuttall oil well units may be obtained from any branch of the Oil Well Supply Company, located in all fields, or from any Westinghouse sales office.

WESTINGHOUSE ELECTRIC & MFG. COMPANY
NUTTALL WORKS PITTSBURGH, PA.
SALES OFFICES AND SERVICE SHOPS IN ALL PRINCIPAL CITIES OF THE UNITED STATES
CANADIAN AGENTS: LYMAN TUBE & SUPPLY COMPANY

Westinghouse

T 30935-A

LOCKWOOD HILL FORMS SELLING ORGANIZATION

Lockwood Hill, for the last 10 years a member of the Blackman Hill Co. of St. Louis, Mo., has organized the Hill Equipment Engineering Co. with offices at 4620 Delmar Boulevard, St. Louis. The new organization will have the exclusive sale of the products of the Lincoln Electric Co. and the Baker Industrial Truck Co. in the St. Louis metropolitan district

Lockwood Hill

and the eastern Missouri and southern Illinois territories. It will carry a complete stock of Linc-Weld motors and Stable-Arc welders, welding supplies, accessories and parts.

Before becoming associated with the Blackman Hill Co., Mr. Hill was assistant to the price approval officer in the St. Louis district ordinance office of the United States Army. For nine years previous to that he was in the General Electric Co.'s testing and foreign departments, and later in the St. Louis district office as sales manager in the power and mining department.

Mr. Hill specializes in the arc welding field. He sold the first arc welders in the St. Louis territory early in his business career. He is a graduate of Cornell University, class of 1909, where he received a degree in mechanical engineering and a certificate in electrical engineering

PRODUCTION BY COMPANIES

Production by companies in the Roberts-Settles-Kirby Pools of Texas up to December 1 follow:

Company—	Prod.
Amerada Petroleum Corp.	823,179
American Maracaibo	1,016,670
California Co.	233,677
Cosden & Co.	355,068
Cranfill & Reynolds	47,550
Continental Oil Co.	1,054,539
Howard County Oil Corp.	321,423
Humble Oil & Refining Co.	191,857
Kirby Oil Co.	28,923
Louisiana Oil & Refining Co.	279,175
Lyone Oil & Refining Co.	31,025
Magnolia Petroleum Co.	1,367,520
Merrick & Bristow	869,647
Moody (Superior)	1,664,833
Owen-Sloan-Cosden	1,426,671
Plymouth Oil Co.	470,189
Pure Oil Co.	4,265
Schermerhorn Oil Co.	1,272,384
Shell Oil Corp.	338,826
E. L. Smith Oil Co.	6,208
Sprague Oil Co.	227,648
Sun Oil Co.	963,632
Taylor-Link Co.	72,201
Ward Oil Co.	357,573
Witherspoon & Glasscock	136,149
Total	13,560,832

FRED D. HOLDSWORTH DEAD

Fred D. Holdsworth, engineer in charge of air compressor design for the Sullivan Machinery Co. at its Claremont, N. H., plant from 1900 to 1928, died November 20.

EASTERN FIELDS

(Continued from Page 68)

farm. In the same district, the same company has a rig up on the J. M. King farm. In Reedy district, the Hope Construction & Refining Co. is drilling on the Bertha Dixon farm.

In Lee district, Calhoun County, the Southeastern Gas Co. has a gasser good for 1,000,000 feet at No. 3 on the Ida McCoy farm. In the same district, W. H. Biddle has a rig up on the Ida Bruner farm. In Sherman district, the Hope Natural Gas Co. has a gasser in the Big Injun sand on the S. A. Hays farm. In Sherman district, the Virginian Gasoline & Oil Co. has a 10-bbl. pumper in the Big Injun sand at a second test on the Marinda Elliott farm.

Gilmer County

In DeKalb district, Gilmer County, Alfred Ellis & Co. are building a rig on the M. R. Ellis farm. In Troy district, the Hope Natural Gas Co. is hauling rig timbers to a location on the G. W. Simons farm. In McClelland district, Doddridge County, the Little Five Oil Co. is hauling rig material to a location on the Isaac Riffee farm. In Liberty district, Marshall County, the Manufacturers Light & Heat Co. is drilling on the Marshall County Bank Co.'s property. In Cameron district, the same company has started to drill on the B. A. McConaughey farm. In Liberty district, the Myers Oil & Gas Co. is due in the Big Injun sand on the G. W. Myers farm. In Church district, Wetzel County, Spencer H. Stockdale has drilled his test on the William Hixenbaugh farm to a depth of 3,225 feet and shut down. In Center district, the Valley Run Oil & Gas Co. is due in the Big Injun sand on the Jefferson Miller farm. In Cameron district, Marshall County, C. B. and A. C. Patterson are due in the Gordon sand on the Frank Howard farm.

In Reedy district, Roane County, the Hope Construction & Refining Co. is drilling on the H. F. Enoch farm. In the same district, the same company has rig material at a location on the L. Vandale farm. In Sherman district, Calhoun County, rig is building on the Lawrence Hamilton farm. In Lee district, F. F. McIntosh has started to drill on the John I. McCoy farm. In Center district, W. H. Bickel is drilling on the C. H. Bailous farm.

SOUTHWEST PENNSYLVANIA

In Morris Township, Greene County, Sutton & Mong completed their test on the J. H. Smith farm. It is a gasser in the 50-foot sand.

In the McDonald district, Washington County, the Carnegie Natural Gas Co. has a small gasser on the Shants farm. On Brush Creek, Allegheny County, W. S. Lockhart's test on the Pittsburgh Coal Co.'s property is a duster.

TAX ON INDIAN ROYALTIES

The question of whether the State of Oklahoma may impose a gross production tax on the royalties received by Choctaw Indians as lessors of land given to them by the Federal Government, and upon which the lessees had found oil and gas, is to be considered by the Supreme Court of the United States. This proposition is presented in the case of Carpenter and others versus Shaw, etc., No. 50.

OPENS NEW OFFICE

The Frates Co. has opened an office at 1013 Perrine Building, Oklahoma City, Okla., with C. C. Gorsuch and C. L. Frates in charge.

COLON REPORT

NEW YORK, Dec.14.—Colon Development Co., Ltd., operating subsidiary of Colon Oil Corp. in Venezuela, reports for the week ending November 30 production of 15,900 bbls. of crude from five wells.

Thermoid
"OIL DRILLER" BELTING

Specially Constructed for ***STRENGTH FLEXIBILITY and WEAR*** *under the hardest oil-field Service*

SOME THERMOID OIL FIELD PRODUCTS

Brake Lining
Rotary Drill Hose
Transmission Belts
Balata Valves
Stuffing Box Rings
Rubber Sleeves, etc.

THERMOID RUBBER COMPANY *Factories and Main Offices,* TRENTON, N.J.

Best Wishes

Consigned to THE OIL INDUSTRY
Contents: HIGHLY VOLATILE.
Christmas Wishes *no end point*
from WARREN PETROLEUM CO.
TULSA, OKLAHOMA

Practical Suggestions in Refining

By W. T. Ziegenhain

Systematize Method Of Fighting Fires At Union Refinery

Each refinery necessarily adopts its own method of fighting fires and it would be difficult to establish any set rules to follow in all cases due to the differences in local conditions, but a plan as outlined by G. F. Prussing, safety engineer for the Union Oil Co. of California, has great practical value and may be taken as a basis for the reorganization or improvement of existing fire fighting systems at some plants. The value of fire prevention agitation has been fully recognized by the fact refinery fires do occur and must be extinguished in the least possible time, the following general scheme has been established:

1. The design and construction of fire fighting facilities is delegated to the refinery engineer, the company fire protection engineer acting as his adviser.

2. The maintenance of these facilities is in the hands of the plant fire inspector, who reports to the plant superintendent. He has a trained, full-time staff.

3. The actual training of men in handling fire equipment is done jointly by the plant superintendent, his shift foremen and the fire inspector.

4. Fire fighting, the handling of every means of extinguishment, is in the hands of the operating shift men, led by the shift foreman then on duty.

Example Given

Mr. Prussing explains the workings of the system by use of the following example:

An asphalt run-down tank flashes and the explosion manhole covers are thrown off. The lagging about the tank begins to burn and the additional heat starts the asphalt heaving and burning in the tank. An operator at a nearby control point calls the telephone operator. "This is Jones at the asphalt stills. Fire in Tank 46, Zone 3; blow first alarm."

The operator repeats back, "Fire, Tank 46, Zone 3, first alarm." And as she does so she presses the key that operates the special alarm whistle used only for fire and first aid alarms. The signal consists of 10 staccato blasts, followed by three long blasts, repeated three times, at five-second intervals.

At the fire call, two crude still operators, two cracking still operators, two from the asphalt stills, two from the treating plant and a gauger report to the scene of the fire. They are met by the shift foreman, who takes immediate charge. Without a word of command, two of these men set the valves on the foam system so as to direct solutions to the mixing chambers on the burning tank and to the nearby hose stations. The gauger follows them, checking their work. The other six men bring up the nearest hose reels and lay lines. The foam solutions pumps are attended by a pumper constantly on duty and by the time that lines have been laid and valves set, solutions are at hand and the actual work of extinguishment commences.

Meanwhile the operators in the asphalt plant involved in the fire have not been idle. Streams have been switched, and where necessary, exposed stills have been taken off stream and fires drawn. The responsibility for operations is on these men. They have also brought into action the first aid fire equipment and two 40-gallon foam cart streams are playing on the burning lagging.

The fire is soon out and there have been no casualties, but had there been, the first aid crew would have already assembled at the first aid house ready for action. Nor were any of the utilities involved; no power lines were burned and no hydrants were broken or otherwise damaged. Had there been, they would have been immediately taken care of by four mechanics who reported on the first alarm and who stood by ready to render their specialized service. Now that the fire is out, the shift foreman signals the boilerhouse and one long blast on the steam whistle sounds the recall. All but one hose crew return to their respective posts. That crew stands by until the equipment has been cooled down beyond any chance of reignition.

SODIUM BICARBONATE TO CLEAN GLASSWARE

Cleaning glassware in the refinery laboratory is more of a problem than in the average research laboratory because of the insolubility of oil in water. Where very clean glassware is required, the general procedure is to first wash it with gasoline to remove the heavier oil film. The gasoline film evaporates to leave only a slight film of oil but when it is necessary to remove this ordinary commercial sodium bicarbonate has been found convenient and efficient in use. Caustic is sometimes used but caustic has the disadvantage of injuring the hands. The commercial grade of sodium bicarbonate may be purchased in barrel lots at a relatively low cost.

To wash a piece of glassware with this material the operator simply wets the glass surface and drains it and then applies the sodium carbonate. This is done by taking a small handful of the material, wetting it by holding it under the water faucet for just a moment, and then applying it to the surface. If an external surface is to be cleaned, the carbonate is rubbed on with the hand but if a flask or bottle is to be cleaned, the wet bicarbonate is poured in and rubbed over the inside with a bottle brush.

The cleaning is partly done by the abrasive action of the undissolved bicarbonate and partly by the solvent action of the concentrated bicarbonate solution. The glassware is then washed with running water and the surface is practically chemically clean. If a perfect surface is required as in the case of qualitative analyses, it is of course necessary to then follow with the customary procedure of washing with a solution of sodium or potassium-dichromate in concentrated sulphuric acid. Following this, the glassware is rinsed free of the acid solution with running water and then thoroughly rinsed with distilled water.

STANDARDIZE REFINERY LABOR TURNOVER RECORD

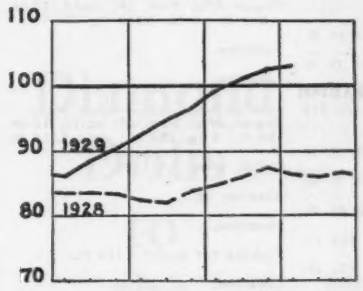
In keeping employment records in the United States Department of Labor a system of classification has been established which may be applied to refinery employment records to standardize and possibly simplify present methods. Most companies file records of the men leaving their employ and a quick and practical means of classification is to divide the cause of leaving into three headings, as quit, lay-off and discharge. Sometimes it is difficult to decide under which heading certain cases should be listed and the following has been outlined as a suggestion to be followed. Under discharge the termination of services is due to incompetence, a physical or mental misfit, violation of rules, dishonesty, insubordination, trouble making or laziness.

A "lay-off" is a termination initiated by the employer because of less work due to lack of orders, lack of material, breakdown, reorganization or a release of temporary help. Some companies classify the discharge of physically misfit men as a lay-off since from a humane standpoint they do not like to mark the man as discharged due to the possibility of such a record proving a handicap in seeking future employment. This should be taken care of in some other manner such as a note on the card record of the man and for the sake of accuracy and increased value of the turnover records of the refinery, such a termination should be called a discharge. The reason given is that the records should be kept with the idea of showing the condition of the plant, a lay-off indicating less work. Similarly a large number of lay-offs indicate a depression, while a large number of quits indicates prosperity or a business "boom."

A "quit" is a termination initiated by the employe, which may result from dissatisfaction regarding wages, hours, working conditions, labor policies or to finding a better job, return to school, marriage, sickness or for unknown reasons. Such causes as death, permanent disability, superannuation or an intercompany transfer may be classified as quits for the lack of a more appropriate classification and for simplicity.

EMPLOYMENT GAINS AT PETROLEUM REFINERIES

Refinery employment continued to increase during October to establish a new record. The graph shown below clearly shows the trend of refinery employment over the past 22 months and conditions at the close of October not only compares very favorably with those of a year ago but are substantially above the average of 1926 as shown by the horizontal line marked 100, and taken as a favorable year in refinery operations. The October average for the number of men employed is 19.4 per cent higher than a year



ago and the amount of payroll is 19.9 per cent higher.

The prediction that the favorable showing in refinery employment that occurred over the first half of the year might not show up so well in the latter half of the year has failed to materialize. It was thought that the figures in the early part of the year were inflated by the heavy construction programs observed by practically all refinery organizations and, then, as the increase continued month after month, it was felt that soon after July a noticeable decline would occur in the refinery operations as the heavy consuming season for refinery products neared a close. Instead, increases in employment have been shown each month and recently announced heavy construction programs at some of the larger refinery units indicates there will be a continuation of the present high standing of employment.

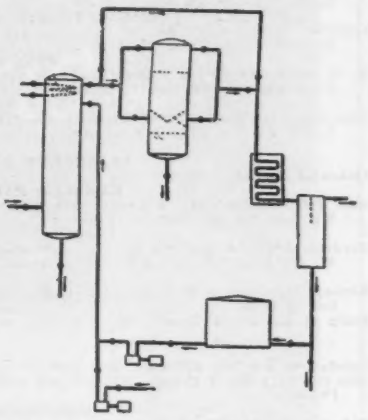
A curtailment of refinery operations is very likely to occur over the next four months at least which will partly offset the construction work, but relatively few men are affected by operation changes. In October the rate of increase was seen to lessen, the increase in the number of men amounting to only four-tenths of 1 per cent and the amount of the payroll one-tenth of 1 per cent compared with September.

Recent Patents

KEEP SUPPLYING CATALYST

1,735,988. Art of Refining Hydrocarbons. Frank A. Apgar, East Chicago, Ind., assignor to Sinclair Refining Co., New York, N. Y., a corporation of Maine. Filed March 10, 1928. Serial No. 260,799. 2 Claims. (Cl. 196—96.)

1. In the vapor phase of refining of hydrocarbons by passage of the hydro-

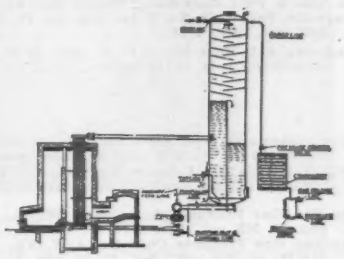


carbon vapors through a charge of an adsorptive catalyst, the improvement which comprises interrupting the refining operation from time to time to supply fresh catalyst thereto and, during the period of interruption, condensing and separately connecting untreated hydrocarbons normally passed through the catalyst, and passing such separately collected hydrocarbons as vapors through the catalyst in addition to the vapors normally passed therethrough upon resuming the refining operation after the period of interruption and during the period of high initial activity of fresh catalyst supplied to the operation.

OIL STILL

1,736,325. Oil Still. Charles L. Parmelee, Orange, N. J. Filed July 19, 1923. Serial No. 652,497. 19 Claims. (Cl. 196—108.)

1. In an apparatus of the class described, a furnace, a conduit therein for



passing oil to be heated therethrough, a vaporizing chamber without the furnace, a compartment within said vaporizing chamber, a second compartment within said vaporizing chamber, connections including positive forcing means for conducting oil from said first named compartment once through said conduit and thence to a point in said second named compartment a substantial distance above the bottom thereof and back to the first named compartment, a connection to the first named compartment from a point in the second named compartment above the level at which the oil from the heating conduit is introduced thereto, and means for conducting away vapors from both compartments.

LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 58)

CADDO PARISH—DIXIE

Sam Gold's No. 3 Hunter, 660 ft. N, 660 f.. W, SE cor. SW NE, Sec. 17-19-14 ..... 200 ft. oil and S.W. in hole 2,457 ft; W.O.S.R; topped broken sand 2,415 ft.

Gulf Ref. Co.'s No. 6 Oden, 660 ft. S, 660 ft. W, NE cor., Sec. 18-19-14 ..... Began drlg. Nov. 3; 100 ft; coring 2,386 ft.

Lide et als' No. 1 Dickson heirs, 795 ft. N, 200 ft. E, SW cor., Sec. 10-19-14 ..... Rig up.

Ohio Oil Co.'s No. 4 Hunter, 330 ft. N and W, SE cor. NW NE, Sec. 17-19-14 ..... Derrick.

The Texas Company's No. 2 Sentell, 990 ft. N, 272 ft. E., SW cor. Sec. 9-19-13 ..... Began drlg. Dec. 1; cmtd. 10-in. 125 ft; 6-in. 2,400 ft.

CADDO PARISH—OIL CITY

Gulf. Ref. Co.'s No. 21-A Levee Board, 1,126 ft. S, 650 ft. E, NW cor. NE, Sec. 34-21-16 ..... Bailing to test 5-ft. sand; T.D. 1,835 ft.

Magnolia Pet. Co.'s No. 19 Doan-Thigpen, 330 ft. N, 990 ft. W, SE cor., Sec. 6-20-15 ..... Cmtd. 6⅝-in. 1,287 ft; T.D. 3,051 ft.

P. T. Mize's No. 1 La. O. R. Corp., 445 ft. N, 100 ft. E, SW cor. SE, Sec. 1-20-16 ..... Derrick.

The Texas Co.'s No. 72 Levee Board, 725 ft. N, 210 ft. E, SW cor. SE, Sec. 27-21-16 ..... Rigging up.

Thompson & Fitzsimmons' No. 1 Howell, 600 ft. S, 300 ft. W, NE cor. SE Sec. 13-22-16 ..... Rigging up.

CADDO PARISH—VIVIAN DISTRICT

Oilfields Expltn. Co.'s No. 15 Caldwell, 810 ft. S, 810 ft. E, NW cor., Sec. 29-22-15 ..... Location.

PINE ISLAND

E. W. McGoldrick's No. 1 Dreyfuss-Lane, 515 ft. N, 300 ft. E, SW cor. NE, Sec. 15-21-15 ..... Cmtd. 10-in. 40 ft; 6-in. 1,510 ft; W.O.S.R; 1,700 ft.

Shreveport Oil Corp.'s No. 3 Hicks et als, 420 ft. S, 450 ft. W, NE cor. NW, Sec. 32-21-15 ..... Began drlg. Dec. 4; cmtd. 10-in. 104 ft; drlg. 1,530 ft.

CLAIBORNE PARISH—HOMER

Oakes et als' No. 1 Richardson, NE SE, Sec. 19-21-17 ... S.D. 1,700 ft.

LA SALLE PARISH—URANIA

Ark. Fuel Oil Co.'s No. 5 Urania, 200 ft. S, 200 ft. E, NW cor. NE SE, Sec. 24-10-1e ..... D.S. test 3,364 ft; S.W; drlg. 3,405 ft.

Gardner, Brown & Harter's No. 1 S. J. Winberry, 400 ft. W, 150 ft. S, NE cor. NW, Sec. 18-10-2e ..... Began drlg. Dec. 4; cmtd. 10-in. 100 ft; drlg. 1,200 ft.

Kinney, Hardtner & Randall's No. 1 Kinney, SW SW, Sec. 7-10-2e ..... S.D. 1,570 ft.

Philp et als' No. 1 Urania, SE cor. NE NE, Sec. 1-10-1e .. Tested 500,000 ft. gas and sanded up; C.O.; setting liner to test; T.D. 730 ft.

Randall et als' No. 3 Urania, Sec. 1-10-1e ..... S.D. 675 ft.

Trio Oil Co.'s No. 3 Urania, NE cor. SW SW NW, Sec. 19-10-1e ..... Rigging up.

MOREHOUSE PARISH

Bahan & Bahan's No. 2 Feazel, 990 ft. S, 330 ft. W, NE cor., Sec. 3-20-4 ..... Cmtd. 6-in. 2,088 ft.

J. S. Herkness' No. 12 Bowles, 3,392 ft. E, 3,300 ft. S, NW cor., Sec. 18-20-5 ..... Began drlg. Dec. 7; cmtd. 12-in. 194 ft; drlg. 1,158 ft.

Magnolia Pet. Co.'s No. 6 U. S. Govt., 490 ft. N, 254 ft. W, SE cor., Lot 2, Sec. 33-21-5 ..... Cored gas rock 2,215-44 ft.

Magnolia Pet. Co.'s No. 7 U. S. Gov't., 250 ft. N, 45 ft. W, SW cor. Lot 2, Sec. 33-21-5 ..... Drlg. sandy shale 1,755 ft.

Southern Carbon Co.'s No. 1 U. S. Gov't., 1,840 ft. W, 660 ft. S, NE cor. Sec. 13-20-4 ..... Began drlg. Nov. 30; cmtd. 12-in. 182 ft.; drlg. 1,540 ft.

Southern Carbon Co.'s No. 13 Tensas, 660 ft. S, 1,320 ft. W, NE cor., Sec. 4-20-4 ..... Began drlg. Nov. 20; cmtd. 12-in. 182 ft.; 6-in. 2,124 ft.

United Carbon Co.'s No. 2 Patton, 660 ft. N, 660 ft. E, SW cor. SE, Sec. 2-20-4 ..... Location.

United Carbon Co.'s No. 3 Patton, 660 ft. W, 660 ft. S, NE cor. SE, Sec. 2-20-4 ..... Location.

OUACHITA PARISH

Amalgamated Carbon Co.'s No. 2 Cole, 742 ft. E, 703 ft. S, NW cor., Sec. 43-19-4 ..... Began drlg. Nov. 27; cmtd. 12-in. 185 ft.; 8-in. 890 ft.; drlg 2,116 ft.

Chauvin Gas Co.'s No. 2 Slagle Johnson, 3,498 ft. S, 26 ft. E, NW cor., Sec. 49-18-4 ..... Cmtd. 6-in. 2,137 ft.

Chauvin Gas Co.'s No. 3 Slagle Johnson, 2,539 ft. S, 55 ft. E, NW cor., Sec. 47-18-4 ..... Rigging up.

Chauvin Gas Co.'s No. 4 Slagle Johnson, 4,505 ft. S, 257 ft. E, NW cor. Sec. 47-18-4 ..... Location.

Hope Prod. Co.'s No. 1 Fairbanks, 660 ft. N, 624 ft. E, SW cor. SE, Sec. 25-20-4 ..... Fishing for bailer 2,180 ft.

Hope Prod. Co.'s No. 2 Fairbanks, 1,876 ft. E, 628 ft. N, SW cor. SE, Sec. 25-20-4 ..... Location.

Hope Prod. Co.'s No. 3 Fairbanks, 1,876 ft. E, 628 ft. S, NW cor. NE, Sec. 36-20-4 ..... Location.

G. E. Jordan's No. 1 Anding, NW NE, Sec. 18-18-5 ..... Plugging back to 2,234 ft; T.D. 2,480 ft.

La. Gas & Fuel Co.'s No. 1 Beard, Sec. 46-18-4 ..... Derrick.

Magnolia Pet. Co.'s No. 2 fee 401, 660 ft. S, 660 ft. E, NW cor., Sec. 2-18-2 ..... Derrick.

Magnolia Pet. Co.'s No. 4 U. S., Sec. 20-19-5; reported completed July 31, in error ..... Tested 1,000,000 ft. gas at 515 lbs. rock pressure; set liner 2,528 ft; bailed dry; plugged back to 2,200 ft; estimated 500,000 ft. gas; W.O; waiting orders 2,528 ft.

Michlouzanna O. & G. Dev. Co.'s No. 1 Osterlind, 6,877 ft. S, 819 ft. W, NW cor. irregular Sec. 42-18-4 .... Drlg. 1,700 ft.

Palmer Corp.'s No. 1 Cagle, 1,964 ft. S, 476 ft. E, NW cor., Sec. 7-18-5 ..... Fishing 4½-in. liner 2,175 ft; T. D. 2,463 ft.

Sho-Van Gas Products Co.'s No. 3 W. Va., 1,980 ft. S and W, NE cor., Sec. 8-18-4 ..... Location.

Sho-Van Gas Products Co.'s No. 4 W. Va., 1,078 ft. N, 294 ft. W, NE cor., Sec. 49, in Sec. 7 ..... Location.

Sho-Van Gas Products Co.'s No. 5 W. Va., 2,046 ft. S, 1,790 ft. W, NE cor. SE, Sec. 6-18-4 ..... Drlg. shale and boulders 1,800 ft.

Southern Carbon Co.'s No. 14 Fairbanks, Sec. 43-20-4 ... Rigging up.

Southern Carbon Co.'s No. 54 fee, 660 ft. N, 674 ft. W, SE cor. NE, Sec. 13-19-4 ..... Fishing 2,620 ft.

Southern Carbon Co.'s No. 4 Phillips, 660 ft. S, 660 ft. E, NW cor., Sec. 8-19-4 ..... Cmtd. 8-in. 795 ft; drlg 1,273 ft.

Trousdale & Wright's No. 2 Kate Cole, 240 ft. W, 1,311 ft. S of point where N line of Sec. 42 joins dividing line of Secs. 8 and 9, in Sec. 42-18-4 ..... Cmtd. 6-in. 2,137 ft.

Union Gas Products Co.'s No. 1 Hare, 660 ft. S, 660 ft. W, NE cor. NW, Sec. 22-19-5 ..... Rig up.

United Oil & Nat. Gas Products Co. of La.'s No. 5 Guthrie, 6,596 ft. N, 6,022 ft. W, cor. Secs. 49, 26, and 25, Sec. 49-20-5 ..... Derrick.

United Oil & Nat. Gas Products Co. of La.'s No. 2 Cole, 660 ft. S, 594 ft. E, C, Sec. 26-20-4 ..... Derrick.

United Carbon Co.'s No. 4 Fudicker, 660 ft. N, 660 ft. E, SW cor. SW Sec. 15-19-5 ..... Rigging up.

United Carbon Co.'s No. 5 Spade, 660 ft. N, 660 ft. W, SE cor. NE Sec. 35-19-3 ..... Location.

United Carbon Co.'s No. 6 Spade, 1,180 ft. S, 140 ft. E, NW cor., Sec. 27-19-4 ..... Location.

W. Va. O. & G. Co.'s No. 9 W. Va., 1,980 ft. E, 1,320 ft. S, NW cor. SW, Sec. 5-18-4 ..... Cmtd. 6-in. 2,133 ft.

RED RIVER PARISH

Root Refineries, Inc.'s No. 1 Home State & Savings Bank, 330 ft. N, 330 ft. W, C, Sec. 8-13-10 ..... Oil show 2,570 ft; drill stem test; S.W; cored sand showing gas 2,598 ft; S D. 2,667 ft.

Triple Oil Co.'s No. 1 W. M. Pollock, Sec. 33-13-11 ..... Cmtd. 6⅝-in. 2,456 ft; W.O.S.R; 2,470 ft.

RICHLAND PARISH

Ark.-La. P. L. Co.'s No. 1 A. E. Purvis, 762 ft. N, 1,180 ft. W, SE cor. Section 34-17-6 ..... Rigging up.

W. C. Feazell's No. 1 R. B. Simon, 2,406 ft. W, 2,020 ft. S, NE cor., Sec. 11-16-6 ..... Rig up.

W. C. Feazell's No. 1 E. L. Wilson, 647 ft. N, 241 ft. E, SW cor. NW, Sec. 31-16-6 ..... Cmtd. 8-in. 822 ft.

Industrial Gas Co.'s No. 1 Boughton, N 85 deg., 10 min. W, 4,458 ft., 865 ft. S. NE cor., Sec. 1-16-6 ..... Cmtd. 6-in. 2,296 ft.

Nat. Gas Products Co.'s No. 1-C Sartor, 536 ft. N, 1,333 ft. E, SW cor., Sec. 21-16-6 ..... Cmtd. gas blowout 235 ft; drlg. out plug.

Magnolia Pet. Co.'s No. 4 C. M. Noble, 400 ft. S, 660 ft. W, NE cor. SE NE, Sec. 35-16-5 ..... Location.

M. L. Meredith's No. 1 Holdness, 1,980 ft. S, 990 ft. W, NE cor., Sec. 15-16-6 ..... Cmtd. 8-in. 838 ft.

Northern La. Nat. Gas Co.'s No. 5 Boykin, 380 ft. N, 157 ft. W, SE cor. Sec. 20-17-6 ..... Began drlg. Dec. 6; cmtd. 12½-in. 190 ft.

Northern La. Nat. Gas Co.'s No. 1 C. M. Purvis, 1,821 ft. E, 630 ft. S, NW cor. SE NW, Sec. 3-16-6 ..... Drlg. hard sand 2,372 ft.

Palmer Corp.'s No. 2 Earle, 1,980 ft. N, 1,320 ft. W, SE cor., Sec. 31-17-6 ..... Bailing to test; T.D. 2,420 ft.

Palmer Corp.'s No. 1 Eubanks, 1,100 ft. N, 350 ft. E, SW cor. SE NW, Sec. 26-17-6 ..... Arranging to test 3,118 ft.

Palmer Corp's No. 5 Rhymes, 1,386 ft. N, 599 ft. E, SW cor. Sec. 34-17-6 ..... Cmtd. 9-in. 931 ft.

Southern Carbon Co.'s No. 1 S. R. Humble, 600 ft. N, 600 ft. W, SE cor., Sec. 26-16-6 ..... Drlg. shale and boulders 1,835 ft.

Richland Production Co.'s No. 1 Brown, Sec. 1-16-6 ..... Cmtd. 6-in. 2,300 ft.

United Carbon Co.'s No. 1 Roberts, 1,650 ft. N, 600 ft. W, SE cor., Sec. 21-16-6 ..... Cmtd. 6-in. 2,280 ft.

SABINE PARISH—PLEASANT HILL

Ark. Fuel Oil Co.'s No. 3 Horne, 560 ft. N, 195 ft. E, C, Sec. 33-10-12 ..... Began drlg. Dec. 5; cmtd. 10-in. 200 ft; drlg. 1,228 ft.

Bridges-Clark Oil Co.'s No. 3 Williams, 1,780 ft. N, 3,180 ft. E, SW cor., Sec. 33-10-12 ..... Bailing to test; T.D. 3,205 ft.

Hatcher and others' No. 1 Moore heirs, 300 ft. N, 300 ft. E, C Sec. 32-10-12 ..... Derrick.

Magnolia Pet. Co.'s No. 5 E. E. Hall, 350 ft. N, 312 ft. E, SW cor. NW SW, Sec. 33-10-12 ..... Began drlg. Dec. 4; cmtd. 15½-in. 185 ft; drlg. 1,684 ft.

Reid Clark et als' No. 2 Moore, 1,600 ft. N, 330 ft. W, SE cor., Sec. 32-10-12 ..... W.O.S.R; 3,236 ft.

UNION PARISH

Bahan & Bahan's No. 3 School, 1,120 ft. N, 650 ft. W, SE cor. Sec. 10-20-3 ..... Rigging up.

Interstate Nat. Gas Co.'s No. 22 Fee, Sec. 17-20-4 ..... Cmtd. 6-in. 2,087 ft.

Interstate Nat. Gas Co.'s No. 24 fee, Sec. 33-20-3 ..... Cmtd. 6-in. 2,090 ft; drlg. in; T.D. 2,095 ft.

Interstate Nat. Gas Co.'s No. 25 fee, Sec. 33-20-3 ..... Cmtd. 6-in. 2,104 ft; arranging to test; T.D. 2,184 ft.

Lyons Gas Co.'s No. 1 A. B. Edwards, 722 ft. W, 897 ft. S, NE cor. NW, Sec. 11-20-3 ..... Began drlg. Dec. 6; cmtd. 12½-in. 150 ft; 8-in. 882 ft.

United Carbon Co.'s No. 2 Reid, 1,980 ft. E, 720 ft. S, NW cor. SW Sec. 12-20-3 ..... Cmtd. 12-in. 195 ft; 8-in. 774 ft.

WEBSTER PARISH—COTTON VALLEY

Magnolia Pet. Co.'s No. 1 McCook & Hibbler, C SW SW, Sec. 22-21-10 ..... D.S. test 6,975 ft; 12 joints S.W; 88 joints mud; arranging to ream down and retest.

Ohio Oil Co.'s No. 46 Bodcaw, 660 ft. N, 660 ft. E, SW cor. SW NW, Sec. 28-21-10 ..... Began drlg. Dec. 8; cmtd. 12½-in. 462 ft.

Palmer Corp.'s No. 2 Miller, 520 ft. N, 504 ft. E, SW cor. SW, Sec. 28-21-10 ..... Cmtd. 7-in. 4,262 ft.

Standard Oil Co.'s No. 1-E Bodcaw, 660 ft. N, 660 ft. E, SW cor. SE, Sec. 28-21-10 ..... Cmtd. 9-in. 3,500 ft.

Standard Oil Co.'s No. 1 Thos. Crichton et al, 660 ft. S, 660 ft. W, NE cor. NW, Sec. 22-21-10 ..... Cmtd. 6⅝-in. 4,300 ft.

WEBSTER PARISH—SAREPTA AND SHONGALOO

Bateman and others' No. 1 J. E. Womble, Sec. 1-22-11 .. Tested S.W; S.O. 5-ft. sand 2,712 ft; arranging to plug back.

Bateman et als' No. 2 Womble, 2,840 ft. S, 1,120 ft. E, NW cor., Sec. 1-22-11 ..... Location.

Donohoe O. & G. Co.'s No. 1-B W. B. Roseberry, 250 ft. S, 250 ft. E, C, Sec. 19-23-9 ..... Began drlg Nov. 25; S.D. 104 ft.

Pat Hudson's No. 1 L. S. Gardner, 150 ft. E, 200 ft. S, NW cor. SW NE, Sec. 1-22-11 ..... W.O.S.R; 1,500 ft. oil; 6-ft. sand; T.D. 2,742 ft.

Pat Hudson's No. 2 S. Gardner, 330 ft. N, 300 ft. E, C, Sec. 1-22-11 ..... Drilling.

Pat Hudson's No. 1 B. L. Slack, 330 ft. W, 330 ft. N, SE cor. SW, Sec. 36-23-11 ..... Rigging up.

F. E. Estes' No. 2 Pardee, 1,270 ft. W, 50 ft. S, NE cor. NW, Sec. 3-22-11 ..... 6-in. parted; set 5 3-16-in. 2,648 ft; 2-ft. sand; T.D. 2,656 ft.

Magnolia Pet. Co.'s No. 1 C. O. Bailey, 100 ft. N, 660 ft. E, SW cor. NW NE, Sec. 29-23-9 ..... Pumping salt water 2,758 ft.

Magnolia Pet. Co.'s No. 2 Denman, 100 ft. N, 160 ft. W, SE cor. NE NW Sec. 1-22-11 ..... Location.

Sarepta Oil Co.'s No. 1 L. S. Gardner, 300 ft. S, 300 ft. W, C, Sec. 1-22-11 ..... Arranging to test 9-ft. broken sand; T.D. 2,719 ft.

WINN PARISH—URANIA DISTRICT

Allen Thompson et als' No. 1 Sanders, 150 ft. W, 200 ft. S, NE cor., Sec. 27-10-1e ..... Location.

ARKANSAS

JOHNSON COUNTY—CLARKSVILLE

Ark.-La. P. L. Co.'s No. 1 Patterson, 1,020 ft. S, 2,570 ft. E, NW cor., Sec. 14-10-24 ..... Began drlg. Dec. 3; drlg. 270 ft.

NEVADA COUNTY

Roy Davis et als' No. 1 Chas. Henry, 1,120 ft. N, 1,120 ft. W, SE cor., Sec. 10-13-20 ..... Derrick.

C. F. Steele's No. 1 E. W. Groves, Sec. 21-14-20 ..... Shut down.

OUACHITA COUNTY—SMACKOVER

J. E. Crosbie's No. 8 Robertson, 250 ft. S, 200 ft. W, NE cor. SW NW Sec. 25-15-16 ..... Drlg. 1,950 ft.

L. H. Hamilton's No. 1 Arnold & Doyle, SE SE, Sec. 23-15-16 ..... Waiting on power, to pump; T.D. 2,010 ft.

Marine Oil Co.'s No. 7-A Hays, Sec. 4-16-15 ..... W.O.S.R; 450 ft. oil; 20-ft. sand; T.D. 2,362 ft.

Simms Oil Co.'s No. 5 Johnson, 301 ft. N, 250 ft. W, SE cor. NE SE, Sec. 34-15-15 ..... Cmtd. 6⅝-in. 1,957 ft.

Southern Prod. Co.'s No. 2-A Watts, NW cor. SW SE, Sec. 27-15-15 ..... S.D. 2,040 ft.

Standard Oil Co.'s No. 13 Arnold, 200 ft. S, 200 ft. E, NW cor. NE NE, Sec. 26-15-16 ..... Cmtd. 6-in. 1,965 ft.

Standard Oil Co.'s No. 9 Powell, Sec. 34-15-15 ..... Reaming to bottom; T.D. 2,000 ft.

Standard Oil Co.'s No. 10 Powell, 200 ft. S, 160 ft. W, NE cor. NW, Sec. 34-15-15 ..... Location.

J. D. Wingfield's No. 1 Martin, SW cor., Sec. 26-15-15... Set 6⅝-in. 2,085 ft; tested little oil and S.W; W.O; T.D. 2,115 ft.

OUACHITA COUNTY—STEPHENS

La. Oil Ref. Corp.'s No. 1 Green, 330 ft. S, 330 ft. E, NW cor., Sec. 22-15-19 ..... Tested salt water 2,300 ft.; arranging to deepen.

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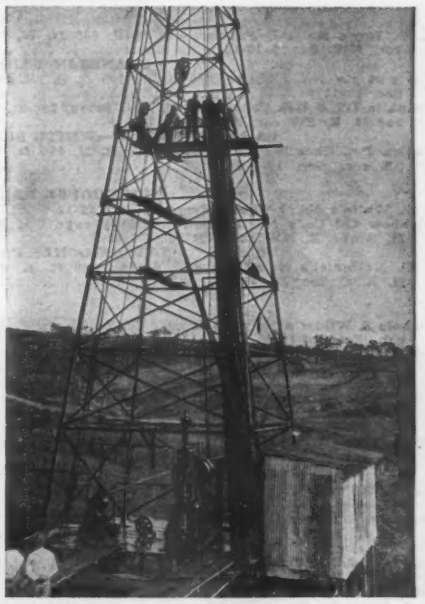

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UNION COUNTY—CHAMPAGNOLLE

Magnolia Pet. Co.'s No. 1 Schmidt, 300 ft. N, 300 ft. W, SE cor. NW SW, Sec. 5-17-14 ..... Plugged back to 2,718 ft.; T.D. 3,226 ft; tested S.W.; recmtng. at 2,718 ft; T.D. 3,226 ft.

Marine Oil Co.'s No. 3-A Thompson, Sec. 10-18-13 ..... Dry at 2,574 ft., 2,529 ft. and 2,441 ft; coring 3,032 ft.

UNION COUNTY EL DORADO

O. W. Estes' No. 1 Telford, 320 ft. S, 320 ft. E, NW. cor. SW, Sec. 35-17-14 ..... Began drlg. Nov. 29; cmtd. 10-in. 42 ft; coring 2,160 ft.

H. L. Hunt's No. 6 Pratt, 150 ft. N, 330 ft. E, SW cor. NE NE, Sec. 7-18-15 ..... Began drlg. Dec. 7; cmtd. 12½-in. 77 ft; drlg. 100 ft.

Rice et als' No. 1 W. Ralty, 150 ft. S, 150 ft. E, NW cor. SW, Sec. 7-17-15 ..... Spudded July 18; cmtd. 10-in. at 92 ft.

Wilson & Chapman's No. 1 Thompson, 150 ft. N, 330 ft. W, SE cor. NW NW, Sec. 4-17-15 ..... Drlg. 1,410 ft.

UNION COUNTY—SMACKOVER

Ark. Fuel Oil Co.'s No. 5 Alphin, Sec. 11-16-16 ..... O.W.D.D; perforated csg. 1,960-70 ft; swbd. dry; filled up 40 ft. oil in hour; W.O.

Lion Oil Ref. Co.'s No. 1 James, CWL, Lot 2, NW, Sec. 6-16-15 ..... S.D; W.O; 2,018 ft.

Root Refineries, Inc.'s No. 8 Calloway, 510 ft. S, 150 ft. W, NE cor., Sec. 4-16-15 ..... Swbd. dry 1,980-2,000 ft; bailing to test 2,005 ft.

Skelly Oil Co.'s No. 8-A Alphin, 1,320 ft. S, C, Sec. 24-16-16 ..... W.O.S.R. 2,116 ft.

EAST TEXAS

PANOLA COUNTY

Ark.-La. P. L. Co.'s No. 3 Crenshaw, E. F. Mitcheson Sur. .. Cmtd. 4½-in. 2,290 ft; T.D. 2,307 ft.

Ark.-La. P. L. Co.'s No. 10 Werner, 250 ft. S, 133 ft. W, NE cor. 15-acre Werner tract in E. S. Mitcheson Sur. ..... Began drlg. Dec. 4; cmtd. 10-in. 40 ft; drlg. 1,040 ft.

S. H. Gardner's No. 5 Brumble, 5,966 ft. E, 4,132 ft. S, NW cor. B. C. Jordan Sur. ..... S.D. for wtr; T.D. 1,000 ft.

S. H. Gardner's No. 4 Roquemore, 5,176 ft. E, 4,432 ft. S, NW cor. B. C. Jordan Sur. ..... Rigging up.

Magnolia Pet. Co.'s No. 1 M. Jernigan, 330 ft. N, 330 ft. W, SE cor. M. Jerigan tract in Jane Thorpe Sur... Tested estimated 750,000 ft. gas; waiting on gauge; T.D. 2,380 ft.

Magnolia Pet. Co.'s No. 1 D. W. Scott, 640 ft. N, 660 ft. E, SW cor. Scott tract in S. Lawless Sur. ..... Cored lime and shale 3,069 ft.

Magnolia Pet. Co.'s No. 5 G. C. Tiller, 1,114 ft. W, 303 ft. N, SE cor. Jane Thorpe Sur. ..... Cored lime and shale 3,110 ft.

Magnolia Pet. Co.'s No. 6 G. C. Tiller, 393 ft. S, 1,990 ft. E, NW cor. Jane Thorpe Sur. ..... Location.

Nat. Gas Prod. Co.'s No. 8 Roquemore, B. C. Jordan Sur.. O.W.D.D; drlg. 2,785 ft.

Nat. Gas Prod. Co.'s No. 10 Roquemore, B. C. Jordan Sur. ..... Began drlg. Oct. 20; cmtd. 10-in. 42 ft; drlg. 1,750 ft.

Nat. Gas Prod. Co.'s No. 11 Roquemore, B. C. Jordan Sur. ..... Drlg. 650 ft.

Nemours Corp.'s No. 3 G. W. Brumble, 200 ft. N, 200 ft. E, SW cor. of lease, in E. F. Mitcheson Sur. .... Began drlg. Dec. 1; cmtd. 10-in. 60 ft; drlg. 2,200 ft; Nos. 1 and 2 drilled by J. H. Askew.

The Texas Co.'s No. 8 G. W. Brumble, 1,085 ft. E, 330 ft. N, SW cor. John Womack Sur. ..... Cmtd. 6-in. 2,240 ft.

D. Thompson's No. 4 Tiller, Jas. Story Sur. ..... Location.

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 58)

R. O. Roy's No. 1-E Farmer, 660 ft. S, 660 ft. W, NE cor. NW, Sec. 5-13-13 ..... Cmtd. 10-in. 299 ft.

FRANKLIN PARISH

Davis et als' No. 1 Moore, 600 ft. W, 200 ft. S, NE cor. Sec. 12-11-6 ..... S.D. 1,430 ft.

Franklin Oil & Gas Co.'s No. 1 T. J. O'Brien, 300 ft. N, 300 ft. E, SW cor. NW Sec. 17-15-9 ..... Cmtd. 15½-in. 208 ft.

LA SALLE PARISH—WHITE SULPHUR DISTRICT

Tunica Pet. Co.'s No. 52 L. & A., 660 ft. N, 660 ft. W, SE cor., Sec. 17-7-2e ..... Began drlg. Nov. 28; cmtd. 10-in. 40 ft; casing 800 ft.

MOREHOUSE PARISH

J. P. White's No. 1 Chess-Wymond, Sec. 32-19-6 ..... Tested S.W. 3,025 ft.; W.O.

Rainbow Oil Co.'s No. 1 Louisville Cooperage Co., 990 ft. S and E, NW cor. NE Sec. 33-22-8 ..... Derrick.

NATCHITOCHES PARISH

S. D. McDaniel's No. 2 Clark & Morse, 300 ft. E, 350 ft. N, C, Sec. 23-5-6 ..... Tested 1,000,000 ft. gas and S.W. 8 ft.; S.D. for orders; T.D. 2,536 ft.

Nichols & Wilder's No. 1 Clark, 150 ft. W, 250 ft. N, SE cor. Sec. 10-10-8 ..... Drlg. 2,040 ft.

Robeline O. & G. Co.'s No. 1 Winn, 558 ft. N, 348 ft. E, SW cor. SE, Sec. 7-8-9 ..... Began drlg. Dec. 6; drlg. 50 ft.

OUACHITA PARISH

J. L. Bullock, trustee's No. 1 West Va. Lbr. Co. N½ NE, Sec. 25-18-5 ..... Cmtd. 9-in. 2,308 ft; drlg. 2,338 ft.

RAPIDES PARISH

Ayers Bros.' No. 1 Wickliff, 2,790 ft. N, 150 ft. E, SW cor. Sec. 9-5n-2e ..... Drlg. 1,890 ft.

RED RIVER PARISH

W. D. Ball's No. 1 Krumholtz, 660 ft. S, 660 ft. S, NW cor. Sec. 32-14-10 ..... Drlg. 1,390 ft.

Benedum & Trees Oil Co.'s No. 1 Franklin Realty Co. 350 ft. E, 350 ft. S, NW cor. Sec. 29-11-9 ..... Plugging back to make test for gas at 2,960 ft; T.D. 3,745 ft.

Eylers O. & G. Co.'s No. 1 Johnson, 500 ft. N, 500 ft. W, SE cor. SW Sec. 17-12-10 ..... Drlg. 2,050 ft.

LeGrande et als' No. 1 Sample, Sec. 11-14-11 ..... Rigging up.

D. H. Riddick's No. 1 Johnson, 500 ft. N, 500 ft. W, SE cor. Sec. 17-12-10 ..... S.D. 1,050 ft.; laying gas line.

RICHLAND PARISH

Richland O. & G. Co.'s No. 1 Singleterry, 1,980 ft. N, 660 ft. W, SE cor., Sec. 20-18-7 ..... Cmtd. 15½-in. 208 ft.

Austin & McDonald's No. 1 Hunt, 594 ft. N, 660 ft. E, SW cor Section 13-17-5 ..... Derrick.

Austin & McDonald's No. 2 Millsaps, SW cor. Sec. 17-17-6. Waiting orders; T.D. 2,679 ft.

Austin & McDonald's No. 3 Millsaps, 1,980 ft. S, 660 ft. E, NW cor. Sec. 16-17-6 ..... Tested S.W.; W.O. 2,477 ft.

Austin & McDonald's No. 4 Millsaps, NW cor. Sec. 16-17-6. Location.

Austin & McDonald's No. 5 Millsaps, 2,640 ft. N, 1,320 ft. W, SE cor. Sec. 8-17-6 ..... Derrick.

W. C. Feezel's No. 1 Landrum, 620 ft. N, 4,573 ft. E, SW cor. Sec. 6-16-7 ..... Derrick.

Industrial Gas Co.'s No. 1 T. R. Hodge, 3,259 ft. E, 1,320 ft. S, C, Sec. 7-16-7 ..... Tested dry 2,450 ft; arranging to deepen.

Industrial Gas Co.'s No. 1 A. T. Davidson, 1,856 ft. S, 916 ft. E, NW cor. Sec. 6-16-7 ..... Tested dry 2,452 ft; arranging to deepen.

Industrial Gas Co.'s No. 1-A Jack Davidson, N 1degree W, 1,094 ft. S, 2,501 ft. E, NW cor. Sec. 6-16-7 ..... Tested 1,000,000 ft. gas 2,452 ft; arranging to deepen.

Industrial Gas Co.'s No. 1 Ruston Drlg. Co., 1,980 ft. S, 1,955 ft. E, NW cor. Sec. 7-16-7 ..... Cmtd. 6-in. 2,300 ft.

Palmer Corp.'s No. 2 Miles, 723 ft. E, 660 ft. S, NW cor. NE, Sec. 12-17-6 ..... Cmtd. 6-in. 2,315 ft.

Shreveport Contractors, Inc.,s No. 1 Bule, 600 ft. E, 400 ft. N, SW cor. Sec. 17-15-7 ..... Tested S.W. 2,361 ft; drlg. 2,465 ft.

Triangle Drlg. Co. and Woodley Pet. Co.'s No. 1 G. L. Cumpton, 660 ft. S, 660 ft. W, NE cor. NW SE, Sec. 16-17-7 ..... Cmtd. 9-in. 2,303 ft.

Woodley Pet. Co.'s No. 1 Bule, 660 ft. N, 1,980 ft. E, SW cor. Sec. 32-18-7 ..... Cmtd. 6-in. 2,415 ft.

SABINE PARISH

R. L. Gay, trustee's No. 6 Bowman Hicks, 900 ft. N, 800 ft. W, SE cor. NW SE Sec. 14-7-14 ..... Derrick.

R. L. Gay, trustee's No. 2-A Bowman-Hicks Lbr. Co., 200 ft. S, 200 ft. W, NE cor. NE NW ..... Derrick.

R. L. Gay, trustee's No. 1 Long-Bell Lbr. Co., NE cor. NW NW Sec. 26-8-14 ..... S.D. 3,604 ft.

R. L. Gay, trustee's No. 3 Sabine Lbr. Co., 1,120 ft. N, 200 ft. E, SW cor. Sec. 13-7-14 ..... Location.

G. M. LeGrand's No. 1 A. C. Haley, 1,020 ft., 3,300 ft. E, NW cor. Sec. 6-7-12 ..... Rigging up.

Ohio Oil Co.'s No. 1 Bowman-Hicks, 330 ft. S, 330 ft. E, NW cor. NW SW, Sec. 35-8-12 ..... Location.

Ohio Oil Co.'s No. 2 Bowman-Hicks, 330 ft. N, 330 ft. W, SE cor. SE SW, Sec. 33-8-12 ..... Location.

Olsen Brothers' No. 1 Keeler, SW cor. SW SE Sec. 27-8-12. Rig up.

D. H. Riddick's No. 1 Scretchfield, 400 ft. E, 400 ft. N, SW cor. NW SE Sec. 18-9-12 ..... Cmtd. 12-in. 116 ft; drlg. 1,100 ft.

Sabine O. & G. Co.'s No. 1 Anderson, 200 ft. N, 200 ft. E SW cor. SW NW Sec. 19-18-13 ..... Cmtd. 6⅝-in. 2,174 ft.; T.D. 2,189 ft.

A. H. Tarver's No. 1 Long-Bell, 330 ft. S, 330 ft. E, NW cor. SW NW, Sec. 29-8-13 ..... Tested dry; small show oil and gas W.O.; 3,625 ft.

UNION PARISH

Fred Stovall's No. 1 Stovall, 1,320 ft. E, 350 ft. N, SW cor. Sec. 32-23-4 ..... Rig up.

WEBSTER PARISH

F. M. Fuller's No. 1 Monzingo, 200 ft. N, 200 ft. W, SE cor. Sec. 27-18-8 ..... Began drlg. Nov. 10; cmtd. 10-in. at 62 ft.

Paul C. Warren et als' No. 1 Martin, 305 ft. N, 212 ft. E, SW cor. Sec. 20-20-9 ..... Drlg. 1,800 ft.

ARKANSAS

ASHLEY COUNTY

Ark. Fuel Oil Co.'s No. 1 Crossett Lbr. Co., 330 ft. E, 330 ft. S, NW cor. Sec. 1-19-7 ..... Drlg. lime 1,998 ft.

J. G. Marcum, trustee's No. 1 McGarry, 300 ft. W, 100 ft. S, C Sec. 9-19-4 ..... Tested dry 3,300 ft.; W.O.

CLARK COUNTY

Wm. Henry, trustee's No. 1 Clark, Sec. 34-9-21 ..... S.D. 1,200 ft.

CLEBURN COUNTY

Cosden Oil Co.'s of Ark.'s No. 1 Donophan, 100 ft. S, 660 ft. E, NW cor. SW SE Sec. 19-9-10 ..... Cmtd. 15½-in. 437 ft; drlg. 460 ft.

COLUMBIA COUNTY

Parker and others' No. 1 Franks, 330 ft. S, 330 ft. W C Sec. 25-19-22 ..... Drlg. shale 2,668 ft.

Williams et als' No. 1 Fullenwider, 200 ft. N, 600 ft. E, SW cor. NE SE, Sec. 12-17-22 ..... Location.

DREW COUNTY

McClintock & Goodka's No. 1 Ogles, 920 ft. W, 400 ft. S, NE cor., Sec. 35-13-5 ..... O.W.D.D; rptd. junked and abd. at 2,575 ft. Aug. 30, 1928; resumed drlg. Nov. 15, 1929; pulled 1,740 ft. drill stem; milling out of csg. at 1,740 ft.

FAULKNER COUNTY

Gold Creek Oil & Gas Co.'s No. 2 Stermer, SE cor. NW SE Sec. 17-4-13 ..... Rigging up.

GARLAND COUNTY

Givens et als' No. 1 Garrett, 660 ft. S, 660 ft. W, C Sec. 1-3-19 ..... Began drlg. Aug. 10, 1926; hard sand 3,168-96 ft.; claims show gas; drlg.

GRANT COUNTY

Jones & Watkins' No. 1 Meek, Sec. 5-4-11 ..... S.D. 1,400 ft.

LITTLE RIVER COUNTY

A. L. Buck's No. 1 Greason, NW NW, Sec. 25-12-32 ... Cored 4-ft. sand 2,034 ft.; W.O.

McDonald & Shaw's No. 1 W. E. Black, 240 ft. N, 450 ft. W, SE cor. SE NE Sec. 12-13-25 ..... Drlg. 1,786 ft.

MADISON COUNTY

Phillips Pet. Co. and F. S. Craver's No. 1., C Sec. 11-14-28. Tested 250,000 ft. gas 63 ft; S.D.

OUACHITA COUNTY

Artex Oil Co.'s No. 1 M. V. Smith, 330 ft. S, 330 ft. E, NW cor. SE NW, Sec. 31-15-17 ..... Drlg. 2,085 ft.

Copenhaven et als' No. 1 Warnick, Sec. 2-15-17 ..... S.D. 2,190 ft.

Kobler & Erickson's No. 1 Rumph & Tyson, 300 ft. N, 300 ft. W, SE cor. Sec. 13-15-15 ..... Set 10-in. at 98 ft.

C. H. McDonald's No. 1 Fogle, Sec. 13-14-16 ..... S.D. 2,301 ft.; W.O.

Pure Oil Co.'s No. 1 A. A. Wilson, 330 ft. N, 330 ft. W, SE cor. NW SW Sec. 26-15-18 ..... Coring 2,660 ft.

PIKE COUNTY

Theo. Davis, trustee's No. 1 Ruth Wilson, 200 ft. S, 200 ft. W, NE cor., Sec. 25-5-26 ..... Straightening crooked hole; T.D. 718 ft.

POPE COUNTY

Cosden Oil Co.'s No. 1 Mo. Pac. R.R., 660 ft. N, 660 ft. E, SW cor. NW SE Sec. 13-9-9 ..... Drlg. 500 ft.

M. W. Greeson's No. 1 C. S. Parke, 330 ft. N, 330 ft. W, SE cor. Sec. 21-8-24 ..... Location.

PRAIRIE COUNTY

Transcontinental Oil Co.'s No. 1 Louis Novak, 330 ft. E, 330 ft. N, SW cor. SW NE, Sec. 36-2n-6 ..... Drlg. 2,375 ft.

ST. FRANCIS COUNTY

Brownlee Drlg. Co.'s No. 1 Whitted, 110 ft. N, 110 ft. E, SW cor. SE NW Sec. 28-4-1 ..... S.D.; funds, 300 ft.

UNION COUNTY

Addie & Modisette's No. 1 Union Sawmill, SW cor. SW SE Sec. 25-19-12 ..... Location.

Sam Arrendale's No. 1 Gallagher & Nelson, 200 ft. N and W, SE cor. Lot 5, Sec. 18-18-17 ..... Washing to bottom; T.D. 2,268 ft.

Bredham and others' No. 1 Craig, SW cor. NW NE Sec. 6-18-15 ..... Cmtd. 6-in. 2,079 ft.

W. M. Coates, trustee's No. 1 McDuffie, Sec. 32-19-17 .... Tested salt water 4,071 ft.; W.O.

S. Y. Dorfman's No. 1 Simmons, 150 ft. N, 150 ft. E, NW SW, Sec. 13-16-15 ..... Derrick.

O. W. Estes' No. 1 Felsenthal, 330 ft. S, 330 ft. W, NE cor. NE NW Sec. 2-18-15 ..... S.D.; W.O. 125 ft. oil and S.W. in hole; T.D. 2,191 ft.

O. W. Estes' No. 1 Telford, 320 ft. S, 320 ft. E, NW cor. SW Sec. 35-17-15 ..... Began drlg. Sept. 18; cmtd. 10-in. 60 ft.; 6-in. 2,110 ft.; S.D. W.O. 125 ft. oil and salt water in hole, T.D. 2,191 ft.

Federal Pet. Co.'s No. 1 Union Sawmill fee, NW cor. NE SW Sec. 5-17-12 ..... S.D; W.O; 3,340 ft.

Joe Modisette et als' No. 2 Union Sawmill, 1,620 ft. W, 1,020 ft S, NE cor., Sec. 14-18-14 ..... Began drlg. Dec. 2; cmtd. 10-in. 133 ft; drlg. 1,550 ft.

Oil Well Corp.'s No. 1 Union Sawmill, 150 ft. S, 150 ft. E, NW cor., Sec. 10-19-14 ..... Derrick.

Stark et als' No. 1 Ainsworth, NE cor. NW NE NE, Sec. 8-19-16 ..... Drlg. 2,000 ft.

VAN BUREN COUNTY

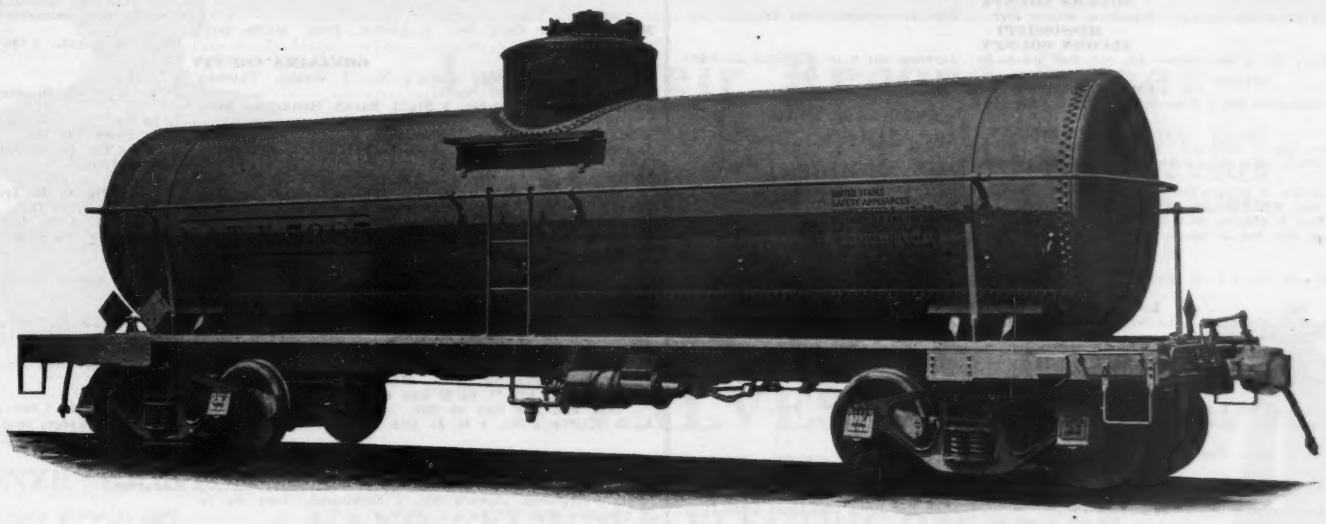
Glenn Cole et als, trustee's No. 1 Scanlan, 200 ft. S, 200 ft. W, NE cor. SE NW Sec. 5-19-13 ..... S.D. 50 ft.

WASHINGTON COUNTY

O'Hara & Shetterly's No. 1 Boyd, SE cor. SE NE, Sec. 12-16-32 ..... Spudded Sept. 1928; S.D. 140 ft.; resumed drlg. Aug. 25; U.R.; T.D. 150 ft.

C. H. Willoughby's No. 1 Jones, Sec. 34-16-30 ..... Drlg. 1,640 ft.

TANK CARS OF ALL TYPES



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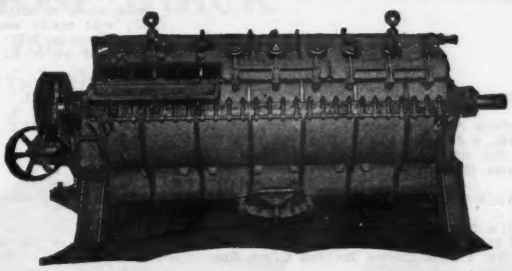

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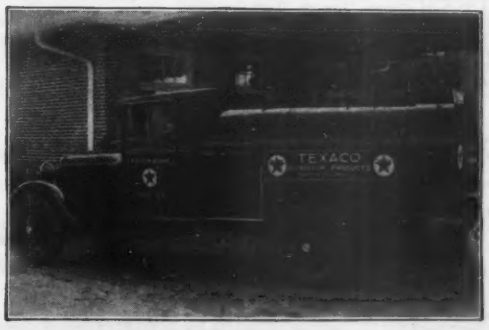

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Lincoln Leaseholding Synd.'s No. 1 Lincoln, Sec. 30-15-3E ..... S.D. 1,500 ft.

WHITE COUNTY

Letona Synd.'s No. 1 Letona, SE cor. NW SW Sec. 35-9-8 ..... Cmtng. 5 3/16-in. 3,500 ft; S.D.

EAST TEXAS

CAMP COUNTY

Rogers et als' No. 1 Enfelt, R. M. Montgomery Sur. ..... Tested dry 1,870 ft.; S.D., 1,920 ft.

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossier, E. Hughhart Sur. ..... Drlg. 2,050 ft.
Shad Harper's No. 1 W. R. Garland, J. Wagley Sur. ..... S.D. 1,862 ft.
Johnson Pet. Co.'s No. 2 Randolph, Edward Dean Sur. ..... S.D. 2,000 ft.

SHELBY COUNTY

Chapperall Oil Co.'s No. 2 Holt, Matthew Moore Sur. ..... S.D. for orders 3,004 ft.

MISSISSIPPI

ALCORN COUNTY

Alcorn Pet. Co.'s No. 1 Matthews, SE cor. Sec. 14-2s-7e ..... Jarring out 6-in. to reset at 2,480 ft.; T.D. 2,735 ft.

CHICKASAW COUNTY

Hightower & Golson's No. 1 Flemming, NE cor. Sec. 20-13-3 ..... S.D; quicksand 1,240 ft.

HINDS COUNTY

Harry Gerson's No. 1 Edward House, Blk. 16, West Jackson Subd., City of Jackson, in Twp. 5n, Range 1e ..... Rig up.
Oscar Brown's No. 1 Riverside (formerly Hennessee et als') SE cor. SE SW Sec. 23-16-5 ..... Set 12½-in. 30 ft.; S.D. 1,050 ft.
Love et als' No. 1 Mayes, Sec. 2-5-1e ..... Cm.d. 15½-in. 60 ft.
Mrs. Reeder et als' No. 1 State, SE cor. NW NW Sec. 25-6-1e ..... S.D. 2,895 ft.

HUMPHREYS COUNTY

E. C. Steele et als' No. 1 C. B. Box, SE cor. SE NE Sec. 25-14-4w ..... Set 12½-in. 60 ft.; S.D.

LAUDERDALE COUNTY

Lauderdale O. & G. Co.'s No. 1 Lackey, 990 f., S and E, NW cor. NE Sec. 2-7-16 ..... Reaming to set 8¼-in at 2,792 ft; T.D. 2,861 ft.
Meridian O. & G. Co.'s No. 1 Hauser, Sec. 33-8-18 ..... S.D. 2,696 ft.
J. R. Smith Oil Co.'s No. 1 C. F. Craig, Sec. 2-6-14 ..... Derrick.

LAFAYETTE COUNTY

Banks-Goode et als' No. 1 May, 113½ rods S, 26 rods E, NW cor. SW Sec. 22-10-1w ..... Derrick.

LINCOLN COUNTY

La.-Miss Oil Co.'s No. 1 Pat Case, NE NE Sec. 21-8-6 ..... Drlg. 2,060 ft.

MONROE COUNTY

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19 ..... Drlg. sand showing little gas; T. D. 2,830 ft.
Amory Pet. Co.'s No. 1 Hall, Sec. 8-13-19 ..... Fish. for liner and tools 3,045 ft.
Park Bowser et als' No. 1 Cowart, second hole, Sec. 2-12-19 ..... S.D. 30 ft.

RANKIN COUNTY

Home Oil Prod. Co.'s No. 1 E. P. Rainey, NW NW Sec. 13-5-1e ..... Claim show gas 2,912 ft.; recmtd. 10-in. casing for test.

WARREN COUNTY

El Dorado Oil Co.'s No. 1 Dornbush, Sec. 8-18-5 ..... S.D. 2,395 ft.

YALOBUSHA COUNTY

Phillip Bros.' No. 1 James, Sec. 20-11-5 ..... Drlg. quartzitic sand 3,506 ft.
Carter Oil Co. and J. D. Collett's No. 1 Blackmur, 330 ft. S, 990 ft. W, C Sec. 14-11-4 ..... Drlg. gummy shale 950 ft.

YAZOO COUNTY

Amerada Pet. Co.'s No. 1 Doherty, SW SW Sec. 24-12-2 ..... Location.

TENNESSEE

DECATUR COUNTY

Chester County Oil Co.'s No. 1 Montgomery ..... Cmtd. 6-in. 1,040 ft.; drlg. hard gray lime 1,165 ft.

ALABAMA

LAMAR COUNTY

Briggs & Knapp's No. 1 Wefel, Sec. 25-12-14 ..... Cmtd. 4⅞-in. 1,660 ft; drlg. sandy shale 1,720 ft.

MARION COUNTY

Hobson and others' No. 1 John Clark, SE Sec. 29-11-14 ..... Drk. pattern.

SUMTER COUNTY

B. W. Bates' No. 1 fee, Sec. 3-18-1 ..... U.R. surface csg. at 300 ft.; to set 6-in.

WASHINGTON COUNTY

S. A. Hobson's No. 1 Hobson Bros., Sec. 9-8-2 ..... S.D.; S.W. flow at 1,450 ft.
S. A. Hobson's No. 1 Wilson, Sec. 27-7-1 ..... Drlg. 760 ft.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 56)

CALDWELL COUNTY

Joe Bruner's No. 1 Neil, S. Morris Sur., 400 ft. NE and NW lines ..... Location in Magnolia tank farm at Luling; delayed by suit to compel Magnolia to move tank
J. Harper et al's No. 1 Crenshaw in the J. Burleson Sur., 600 ft. NE and 320 ft. NW of farm ..... Location.
Stone et al's No. 2 Robert Guinn, Joseph Burleson Sur., 150 ft. to NE and NW lines of 225-acre farm ..... Drlg. 2,020 ft. in Buda lime, depth corrected.
Keen & Malcolm's No. 1 Mollie McNeal, George C. Kimball Sur., 2,500 ft. to W line, 860 ft. to N line, 1 mi. S from old Luling Field ..... Spudded in.
M. T. Keen et al's No. 1 McNeal in the J. C. Kimble Sur., 2,500 ft. NE and 860 ft. SE 434-ac. farm ..... Drlg. 890 ft.
San Antonio Pet. Corp.'s No. 1 Gusave Walkerhagen, Thomas Maxwell Sur., 150 ft. to NW and SW lines, 11 miles W from Lockhart ..... Drlg. in Edwards at 1,136 ft.
Cranfill & Reynolds' No. 1 Beversdorf, A. Floyd Sur. ..... Location.
W. H. Harper's No. 3 Thomas, J. Roberts Sur. ..... Fishing for pipe.
G. R. McIntire's No. 1 J. B. Towns in Isaac Weldon Sur., 4,900 ft. to NE line, 1,350 ft. to SE line of survey ..... Drlg.; T. D. 2,630 ft.; sand in Austin (corrected depth).

DE WITT COUNTY

Gibson & McIntyre's No. 1 Wm. Van Roeder ..... T. D. 1,441 ft.; sanded up; washing to bottom.
F. P. Zoch's No. 1 Steinman, John Garelli Sur., 976 ft. from SW line, 1,797 ft. from NW line ..... Rigging up.
H. T. Roe's No. 1 Leinhardt ..... T. D. 1,750 ft.; shut down after testing sand at this depth.

DIMMITT COUNTY

Texas Fuel Gas Co.'s No. 1 City Nat'l Bank (Laxon) ..... Setting csg. at 680 ft.
Texas Fuel Gas Co.'s No. 1 Laxon, Sur. 653, 5 miles SW Carrizo Springs ..... T. D. 1,425 ft.; setting csg; test has shown some gas and rainbows of oil.

DUVAL COUNTY

National Oil Co.'s No. 2 Ball, Agua Poquita Sur., Blk. 3 ..... Drlg. 1,570 ft.
F. P. Zoch's No. 1 King, Blk. 25, Howwman Smith subd. W. R. King ranch, Dugo Hinijosa grant, 660 ft. N line, 660 ft. E line ..... Location.
Southern Oil Co.'s No. 1 Welder Wood, Sur. 215 ..... T. D. 750 ft.; standing, waiting on water.

EDWARDS COUNTY

A. M. Griffith's No. 1 Wardlaw ..... Shut down 3,000 ft. awaiting orders; expect to drill deeper.

FAYETTE COUNTY

Muldoon Oil & Gas Co.'s No. 1 Kemp, M. Smith League ..... Dry and abandoned 2,210 ft.
W. J. Kelly's No. 1 Burke ..... T. D. 490 ft.; shut down (corrected depth).

FRIO COUNTY

Frank B. LeFeure's No. 1 H. W. and R. L. Eschenburg, Edward Gallagher Sur. No. 789, 3,980 ft. W of SE cor. of Edward Gallagher Sur. No. 788 and 1,320 ft. S of N line of Edward Gallagher Sur. No. 789 ..... To start rigging up soon.

GOLIAD COUNTY

Compton Oil Co.'s No. 1 Fromme, Dexter Survey ..... Standing.
F. P. Zoch's No. 1 Kaufman ..... T. D. 4,184-98 ft.; showed good volume of gas on drill stem test; setting csg. above sand at 4,184 ft.
Humble Oil & Ref. Co.'s No. A-2 M. C. Spangle, in the H.&G.N.R.R. Sur., 2,000 ft. N, 20 degrees W of No. A-1 M. C. Spangle, 6 miles N of Goliad ..... T. D. 707 ft.; sand; no showing.
Mission Drlg. Co.'s No. 3 Ray, 3 miles E of No. 2. T. D. 4,060 ft.; reset screen and liner; ran 2½-ft. tubing; swab in for very small oil and gas well; not completely clean.
Mission Drlg. Co.'s No. 1 Lucas, Juan Moya Delgado Sur. ..... Drlg. in gumbo 2,790 ft.

GONZALES COUNTY

Acme Oil & Royalty Corp.'s No. 1 Weber, Thomas Wright Survey ..... Drlg. 1,560 ft. in sand rock.
Dunning & Pierce's No. 1 Stahl, Sarah Hendricks Sur., 150 ft. to SE and NE lines of farms ..... Location.
Adams & Lyles' No. 1 Jackson Sur. ..... Shut down 800 ft.
Joe Bruner's No. 1 R. D. and J. C. Miller ..... T. D. 3,490 ft.; drilling in hard formation.
Linderman Bros.' No. 2 F. H. Frampton in Richard Heath Sur. ..... Skidded rig 40 ft. from No. 1.
Finnell & Elam's No. 1 Robinson, Liverpool Sur. ..... Shut down 1,720 ft.
Hoffman et al's No. 1 Borrer, J. Stewart Sur ..... Shut down 1,025 ft.
Marshall & Moore's No. 1 St. Clair, R. H. Wymn Sur. ..... T. D. 1,700 ft.; shut down.
United North & South's No. 1 J. A. Kerr, in James Bowman Sur., 150 ft. S of CNL of tract, 11 miles W from Waelder ..... Drlg. in sandy shale 2,515 ft.
United North & South Dev. Co.'s No. 1 J. E. Preston 120 acres, John Oetkins Sur., 1,350 ft. to S line, 750 ft. of W line ..... T. D. 2,715 ft.; drlg. in shale; show of gas 470-570 ft.
L. L. Jones' No. 1 J. F. Kindred, W. W. Barnes Sur., 700 ft. W line, 1,000 ft. S line ..... Location.
Cullen & West's No. 1 E. Menking, Blk. 24, 150 ft. to N and 450 ft. to E line of Blk. 24, 14,050 ft. to NW and NE line of Sur. ..... Drlg. in shale 1,880 ft.
A. G. Keiffer's No. 1 B. B. Dix ..... Drlg. in Taylor marl 2,800 ft.; drill stem stuck.

GUADALUPE COUNTY

H. H. Weinert's No. 1 A. E. Dowdy, J. C. Darst Sur., 110 ft. S line, 36 ft. E line ..... Location.
Shell Petroleum Corp.'s No. 1 Denmann, Jose de la Baume Sur. ..... Drlg. in sandy shale at 1,650 ft.
All States Petroleum Co.'s (Carl Bros.) No. 2 Powers, in the John Ussury Sur. ..... Derrick up and rig on ground; have decided since not to drill at this time; will not be further reported unless or until drlg. starts.
H. H. Weinert's No. 2 A. E. Dowdy, J. C. Darst Sur., 100 ft. N line, 36 ft. E line ..... Location.
O. W. Killam's No. 1 C. N. Adams, Josias Randolph Sur., 150 ft to NW & NE lines of farm ..... T. D. 2,827 ft. in Austin chalk; pulling casing to abandon.
J. O. Dore's No. 1 Appling, H. Cottlebur ..... T. D. 1,000 ft.; standing; had light show of oil and gas at 650 ft.
Grayburg Oil Co.'s No. 1 Wells, Jose La Baume ..... Setting csg. at 3,875 ft.; took core from 3,897-3,902 ft.; showing oil.
Pagenkopf & Kennon's No. 1 Halm, Joseph Kent Sur., 5 miles E of Seguin ..... T. D. 1,938 ft.; drlg. in base of Georgetown lime; formation very hard.
Adams-Lyles-Walton's No. 1 Zoberoski, Jesus Cantu Sur. Bailing 20 bbls. oil per day from 2,485 ft.; top of Eagleford.

HAYS COUNTY

E. A. Bucklin's No. 1 A. Elsner ..... T. D. 725 ft.; taken over by Chas. Bell and associates; about to resume drilling.
John H. Foster, trustee's No. 1 W. G. Barber, 7 miles SE from Buda ..... T. D. 671 ft.; topped Edwards with show of oil; have not tested; will make another location quarter mile NW; this test first reported as J. A. Lang's No. 1 Barber.

JACKSON COUNTY

Wright Bros.' No. 7 Drusheli ..... Standing 3,875 ft.

JIM HOGG COUNTY

Deep Rock Oil Co.'s No. 1 Kelsey ..... Standing 2,582 ft.
L. M. Holden's No. 4 Jones, 1,320 ft. to north line, 1,320 ft. to east line of 160 acres out of Share 5 "A" Dego Hinojosa Grant ..... Standing 42 ft.

JIM WELLS COUNTY

E. W. Ogden's No. 1 G. Farris, M. Perez Sur ..... T. D. 2,450 ft.; drlg. in shale.

KARNES COUNTY

Ruby & Claypool's No. 1 Tom, V. Zepeda Sur., 850 ft. N line, 1,600 ft. E line ..... Shut down in shale at 1,238 ft.
Benedum-Trees' No. 1 S. E. Crews, Britton Odem Sur. ..... T. D. 4,185 ft.; drlg. in sandy clay.
Hurador Oil Co.'s No. 1 W. E. Porter ..... Reaming hole down at 3,090 ft.

KERR COUNTY

L. R. Page and associates' No. 1 Real ..... T. D. 4,500 ft.; drlg. below 4,500 ft.
D. B. Mascho's No. 1 J. L. Love, C.C.S.D.&R.G.N.G. Sur., Sec. 1,594, 5,280 ft. to N line, 1,000 ft. to W line ..... Water well completed; heavy duty cable tool rig on ground (first reported as O. E. Tunstill No. 1 Love Ranch).

KENDALL COUNTY

Borgett et al's No. 1 Haag, W. Avery Sur. ..... T. D. 680 ft.; installed heavier rig (cable tools); report showing.
Sterling's No. 1 Willie Werner, 2 miles NW from Borgett No. 1 Haag ..... T. D. 880 ft.; fishing (cable tools); 110 ft oil in hole.

KLEBERG COUNTY

Bowen-Sarles' No. 1 Robert H. Simmons, Sec. 7, King subd. 3 miles W from Ricadro ..... Derrick up; moving in rig.

KINNEY COUNTY

Lloyd Oil Co.'s No. 1 G. B. Moore, Survey 117 ..... T. D. 2,710 ft.; in lime flowing sulphur water.
Mardon Oil Co.'s No. 2 Jim Clamp, in the John Winters Sur. No. 346, near No. 1 ..... Moving in cable tools.

LIVE OAK COUNTY

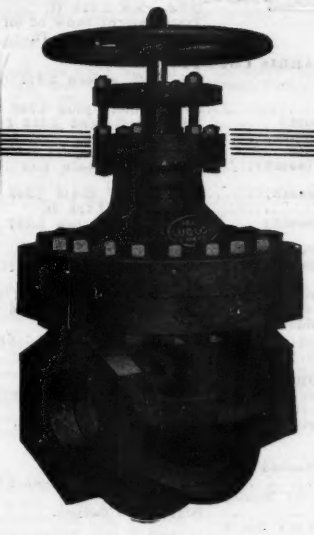
O'Neil & Catlett No. 1 Smith, 900 ft. SW line, 150 ft. NW line ..... Drlg. in shale 3,360 ft.
Dr. J. K. Rowan Co.'s No. 1 Lynne Ranch, 171 ft. W of George West ..... Location.
Simmons Oil Co. No. 1 Richard Coquat in Jas. C. Hill survey 2,250 ft. to S. line 1,750 ft. to E. line, 7 miles NE of Oakville ..... Drlg. in shale 1,300 ft.

MAVERICK COUNTY

Rycade Oil Corp.'s No. 4 J. M. Chittim ..... T. D. 5,583 ft.; drlg. in lime; no showing of consequence.
Rycade Oil Corp.'s No. 5 Chittim ..... T. D. 1,500 ft.; preparing to drill deeper; still producing 4 bbls. 12½ Baume test oil.
Rycade Oil Co.'s No. 3 Chittim, Blk. 7, Sur. 116, I.&G.N. 175 ft. N of No. 1, 10 ft. W, 255 ft. S line ..... T. D. 6,105 ft.; drlg. in lime; still producing light oil and gas.
The Texas Company, 5 miles west Darling Switch ..... T. D. 4,036 ft.; drlg. white limerock; probably Edwards.

MEDINA COUNTY

Pan American Petroleum Co.'s No. 1 Harrison, Sur. 799 ..... Rigging up.
Pat Armstrong's No. 1 C. W. Butts in George C. Hanson Sur. ..... T. D. 974 ft.; coring Anacacho.



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"Right now!"

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How much time is lost in changing from one size to the other?

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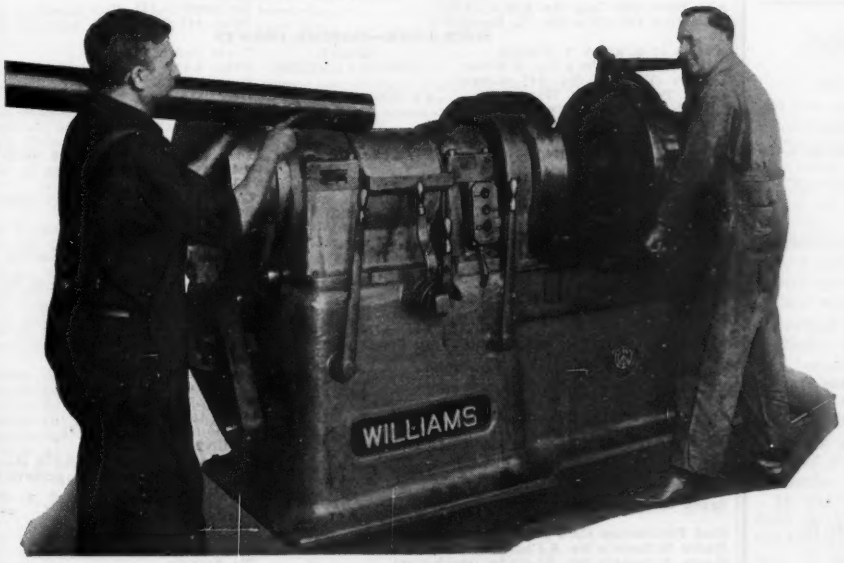

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1209 Liberty Street, Erie, Pa.
Canadian Plant: Brantford, Ontario

Donaldson Oil & Dev. Co.'s No. 2 Adams Co., James Hillemmeyer No. 25 Sur., 500 ft. to E line of Sur., 150 ft. to S line of N half of Sur. ..... Derrick timbers on ground.
T. N. T. Drilling Co.'s No. 1 V. Mangold, I. S. Palmer Sur. No. 20, SE cor. 1 mile from Noonan ..... T. D. 1,230 ft.; shut down in Austin chalk.
Cecil Switzer's No. 1 Zerr, 6 miles west of Hondo ..... Fishing 3,487 ft.
R. C. Hill's No. 1 A. Wuezbach, G. Areola Sur., 500 ft. E line, 600 ft. S line ..... Location.
Carl Brothers' No. 1 Saathoff, A. Smelzer No. 19 Sur... T. D. 910 ft.; taken over by Carl Bros. from A. W. Skogland; shut down.

MILAM COUNTY

Service Oil & Gas Co.'s No. 1 Muldrow, L. Taylor Sur., SE cor. ..... Location.
Hill & Bonwell's No. 1 B. Booker, James Welch Sur. .... Fishing 2,020 ft.
Lloyd Oil Corp.'s No. 1 San Clement, Fokes Sur. ..... Spudded in.
A. H. Wray's No. 1 D. D. Fowler ..... T. D. 1,688 ft.; sidetracked 360 ft. of drill pipe lost in hole; now drlg.

McMULLEN COUNTY

Sun Oil Co.'s No. 1 Berry, J. Poitenent Sur. No. 9 ..... Drlg. in sandy shale 1,816 ft.
Cowboys Oil Co.'s No. 1 Shiner, H. M. Brewer Sur. ..... T. D. 2,280 ft.; shut down.

NUECES COUNTY

H. Grimm et al's No. 1 A. R. Roberts, Blk. 79, Winter Vegt. Garden Subdivision, 6 miles NW of Robstown, 12 miles NE Agua Dulce Field ..... T. D. 2,160 ft.; drlg. in gumbo.

SAN PATRICIO COUNTY

LaFeria Oil & Gas Co.'s No. 1 C. C. Smith in J. C. White Survey, 690 ft. to north line, 350 ft. to east line .... Drlg. in shale 2,200 ft.

STARR COUNTY

The Texas Company's No. 4-A V. G. Guerra, Porcion 67, Share 305-D ..... T. D. 3,590 ft.; standing 2,300 ft. in oil, 35 gravity.
Smith & Adams' No. 1 Welch, Pedernal Sur. ..... Drlg. 600 ft.

WEBB COUNTY

Everett Suladie's No. 1 Bruni Sur. 131, 150 ft. S line, 150 ft. W line of NW of SE ..... Drlg. 1,400 ft.

UVALDE COUNTY

Waldrop & Welch's No. 1 H. S. Benson, 2 miles northwest of Uvalde ..... T. D. 580 ft.; setting 8¼-inch csg.; hole making small amt. gas.
Phantom Oil Co.'s No. 1 Claudt Sur. 661 ..... Moving in machinery.

WILLACY COUNTY

Weimer-Richardson's No. 1 Elmore ..... T. D. 1,860 ft.; shut down in gumbo.

WILSON COUNTY

R. M. Sherer's No. 1 Tummilson, A. Trevena Sur. ..... 457 ft.; standing.
Tidal Oil Co.'s No. 1 Felix Kulesza, Susanna Larrison Sur., 225 ft. to E line, 1,320 ft. to S line of 647-acre tract ..... Shut down in shale at 2,516 ft.
Trinity Drillers' No. 1 Richter in Trevino Sur., 3,005 ft. to E line, 350 ft. to N line of 58-ac. lease ..... Rigging up.
Rycade Oil Corp. et al's No. 1 George Hice, Juan Delgado Sur., 650 ft. W of Cibolo River, 150 ft. SE line of tract ..... Spudded in.
Grayburg Oil Co.'s No. 1 Tigler, Parrot Sur. ..... T. D. 3,396 ft.; temp. shut down.
R. M. Sherer's No. 1 First State Bank of Stockdale, Moran Sur. ..... 220 ft.; standing.

ZAPATA COUNTY

R. F. Blankenship's No. 1 G. T. Montemeyer, Sur. 45, Blk. 7, 150 ft. N & E lines ..... T. D. 1,321 ft.; testing (location corrected).
O. W. Killam's No. 1 J. G. Martinez Sur No. 2, 550 ft. W line, 150 ft. S line of SE of Sur. ..... Drlg. 560 ft.
Magnolia Pet. Co.'s No. 3 F. G. Martinez Sur. No. 6, 660 ft. N line, 660 ft. E line of W half of Sur. ..... T. D. 1,872 ft.; sand at 1,872 ft. tested gas through tester, W. O. C.
John Pappas' No. 2 Cuellar, Por. 33 and 34 ..... Coring; T. D. 1,702 ft.
National Oil Co.'s No. 1 D. B. Adams ..... T. D. 670 ft.; resumed drilling; showing considerable gas.
Marts & Beavens' No. 1 Trevino, Blk. 2, Porcions 3 and 3, Sur. 1, 150 ft. SE line and SW line ..... Abandoned 2,501 ft.

ZAVALA COUNTY

Tritex Oil Co.'s No. 1 Clay Burns ..... T. D. 780 ft.; standing.
Chicago Merchants Produce Co.'s No. 1 fee, 1 mile E of La Pryor ..... Drlg. 1,000 ft.
Tritex Oil Co.'s No. 2 Childress, one-fourth mile NW of old Dominion Co.'s No. 1 Pryor ..... Drlg. 650 ft.
Weigand Bros.' No. 1 W. L. Gates, Hooper & Wade Sur. No. 13, 1,320 ft. S of N line, 1,220 ft. W of NE cor. Sur., about 16 miles S of Batesville ..... Rigging up.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 60)

Humble & Valley's No. 6-A Bracey ..... Derrick.
Humble & Valley's No. 7-A Bracey ..... Location.
Humble & Valley's No. 8 Buchanan ..... Derrick.
Humble Oil & Refg. Co.'s No. 8-B Deutrich ..... Repairing rig after blowout 1,090 ft.
Humble & Valley's No. 9-A Deutrich ..... Drlg. 1,176 ft.
Humble & Valley's No. 11-B Deutrich ..... Derrick
Humble & Valley's No. 12-B Deutrich ..... Location.
Humble & Valley's No. 5-B Grawunder ..... Derrick.
Humble & Valley's No. 7-B Grawunder ..... Comp. flowing 250 bbls. oil 3,230 ft.
Humble & Valley's No. 10-B Grawunder ..... Derrick.
Humble & Valley's No. 3 Helmuth ..... Derrick
Humble & Valley's No. 3 Jackson ..... Derrick
Humble & Valleys No. 1-B Machamehl ..... Rig.
Humble & Valley's No. 5 Saunders ..... Rebuilding rig 3,086 ft.
Humble & Valley's No. 6 Urban ..... Derrick.
Humble & Valley's No. 7 Urban ..... Drlg. 248 ft.
Humble & Valley's No. 8 Urban ..... Rig.
Humble & Valley's No. 6 Mueller ..... Rigging up to pump 3,270 ft.
Humble & Valley's No. 7 Mueller ..... Comp. flowing 420 bbls. 3,120 ft.
Humble & Valley's No. 8 Mueller ..... Drlg. shale 525 ft.
Humble & Valley's No. 6 Gotosky ..... Drlg. 1,200 ft.
Humble & Valley's No. 3 Sherrill ..... Comp. flowing 330 bbls. 3,525 ft.
Humble & Valley's No. 4 Sherrill ..... Location.
Humble & Valley's No. 1 Duncan, State land ..... Rig
Humble & Valley's No. 6 Thompson ..... Derrick.
Humble & Valley's No. 7 Thompson ..... Location.
Humble & Valley's No. 1-C Mitchell ..... Location.
Humble & Valley's No. 4 Payne ..... Drlg. shale and lime 2,567 ft.
Humble & Valley's No. 5 Payne ..... Rig.
Humble & Valley's No. 6 Payne ..... Derrick
Humble & Valley's No. 7 Payne ..... Location.
Humble & Valley's No. 8 Payne ..... Location.
Humble & Valley's No. 7-A Walton ..... Rig.
Humble & Valley's No. 8-A Walton ..... Derrick.
Humble & Valley's No. 3-A Washington ..... Derrick
Humble & Valley's No. 4 Woodley ..... Set 15-in. casing 194 ft.
Humble & Valley's No. 5 Woodley ..... Derrick.
Humble & Valley's No. 6 Woodley ..... Derrick

DE WALT—FORT BEND COUNTY

Humble Oil & Refining Co.'s No. 2-C Bankers Mortgage.. Cem. surface casing 1,212 ft.
Humble Oil & Refining Co.'s No. 11 Brazos ..... Derrick
Humble Oil & Refining Co.'s No. 12 Brazos ..... Drlg. shale and shell 3,605 ft.
Humble Oil & Refg. Co.'s No. 9 Camp ..... Cem. casing 3,320 ft.
Humble Oil & Refg. Co.'s No. 3 Hamner ..... Comp. flowing 200 bbls. 3,765 ft.
Humble Oil & Refg. Co.'s No. 9 Hamner fee ..... Location.
Humble Oil & Refg. Co.'s No. 11 Sugarland ..... Drlg. sandy shale 3,692 ft.
Humble Oil & Refg. Co.'s No. 12 Sugarland ..... Rigging up to pump 3,785 ft.
Humble Oil & Refg. Co.'s No. 13 Sugarland ..... Rig.
Humble Oil & Refining Co.'s No. 2-B Sugarland ..... Drlg. rock 2,525 ft.
Humble Oil & Refg. Co.'s No. 7 Nelson ..... Tested slight show of oil 3,785 ft.; drlg. sand 3,812 ft.
Humble Oil & Refg. Co.'s No. 8 Nelson ..... Location.

HUMBLE—HARRIS COUNTY

Gardner Oil Co.'s No. 1 Perkins ..... Set 20-ft. screen 2,677 ft.; bailed salt water.
Humble Oil & Refg. Co.'s No. 6 Williams ..... Drlg. cement plug 4,388 ft.
Humble Oil & Refg. Co.'s No. 7 Williams (south) ..... Testing oil sand 5,383 ft.
Humble Oil & Refg. Co.'s No. 8 Williams (south) ..... Rig
Humble Oil & Refg. Co.'s No. 9 Williams, south ..... Drlg. sandy shale 4,082 ft.
Humble Oil & Refg. Co.'s No. 10 Williams (south)..... Drlg. hard shale and lime 2,400 ft.
Humble Oil & Refining Co.'s No. 2 Trahon (south) ..... Drlg. sticky shale 2,388 ft.
Morris Investment Co.'s No. 1 fee ..... Abandoned 1,428 ft.
South Texas Petroleum Co.'s No. 12 Morris (south) ..... Set 207 ft. screen 5,367 ft.; running tubing.
South Texas Petroleum Co.'s No. 13 Morris (south)..... Drlg. 4,401 ft.
South Texas Petroleum Co.'s No. 2 Lee (south) ..... Drlg. hard sand 3,716 ft.
Sun Oil Co.'s No. 3 Bender (northwest) ..... Drlg. shale 3,422 ft.
The Texas Company's No. 2 Dunman, south side ..... Drlg. sticky shale 4,446 ft.
The Texas Company's No. 3 Dunman, south side ..... Drlg. sticky shale 4,386 ft.
The Texas Company's No. 4 Dunman, south side ..... Drlg. shale 4,205 ft.
The Texas Company's No. 23 House ..... Testing dry 4,022 ft.; drlg. shale 4,135 ft.
West Production Co.'s No. 2 Foster ..... Rig.

BLUE RIDGE—FORT BEND COUNTY

Cunningham Prod. Co.'s No. 6 Blakely (workover) ..... Rigging up to pump 2,874 ft.
Humphreys Corp.'s No. 4 West Schenck (workover) .... Rigging to deepen.
Sinclair Oil & Gas Co.'s No. 5 Davidson (workover)..... Salt 4,439 ft.; plug to 4,141 ft.; to pump.
E. F. Simms' No. 1 Blakely ..... Rigging.

PIERCE JUNCTION—HARRIS COUNTY

Gulf Production Co.'s No. 31 Taylor ..... Drlg. gumbo and lime 2,003 ft.
Navarro Oil Co. and Texas Exp. Co.'s No. 11 Dooley (workover) ..... Rigging to deepen.
Navarro Oil Co. and Humble Oil & Refg. Co.'s No. 5 Dooley (workover) ..... Drlg. sand and shale 5,004 ft.
Rio Bravo Oil Co.'s No. 11-B Settegast ..... Drlg. sand and shale 4,929 ft.
Rio Bravo Oil Co.'s No. 16-A Settegast, west ..... Comp. flowing 3,200 bbls. oil 4,291 ft.; set one joint screen.
Rio Bravo Oil Co.'s No. 17-A Settegast, west ..... Pulling casing 4,226 ft.
Saxet Gas Co.'s No. 5 Herman (southwest) ..... Drlg. sand 4,060 ft.
Saxet Gas Co.'s No. 6 Herman, southwest ..... Drlg. gumbo 3,960 ft.
Saxet Gas Co.'s No. 7 Herman, southwest ..... Derrick.
Superior Oil Co.'s No. 3 B. Whitehead (workover).. ... Sidetracking 3,840 ft.
Superior Oil Corp.'s No. 3 Calvert ..... Location.
Superior Oil Corp.'s No. 2 Herman, southwest ..... Drlg. gumbo 3,300 ft.
Shaw et al's No. 4-E Fitzsimmons ..... Tested slight oil show 4,498 ft.; drlg. shale 4,535 ft.
Smith & Plummer's No. 1 Settegast ..... Shut down in hard shale 6,004 ft.

LIBERTY—LIBERTY COUNTY

Abercrombie & Harrison's No. 4 fee (workover) ..... Drlg. 3,212 ft.
Empire Gas & Fuel Co.'s No. 9 Groggan ..... Drlg. 2,076 ft.
Empire Gas & Fuel Co.'s No. 10 Groggan ..... Drlg. 2,934 ft.
Sun Oil Co.'s No. 52 Mitchell ..... Core sand showing oil 3,458 ft.
The Texas Company's No. 5 Green (workover) ..... Pulling screen to deepen 3,290 ft.

HULL—LIBERTY COUNTY

Empire Gas & Fuel Co.'s No. 30 Barngrover ..... Drlg. 3,637 ft.
W. B. Flynn's No. 8 Harrison (workover) ..... Drlg. 2,532 ft.
Gulf Production Co.'s No. 50 Phoenix (workover) ..... Drlg. 4,432 ft.
Gulf Production Co.'s No. 68 Phoenix (workover) ..... Cleaning hole to deepen.
Houston Production Co.'s No. 14 Barngrover ..... Drlg. 3,078 ft.
Humble Oil & Refg. Co.'s No. 25 Guedry ..... Location.
Humble Oil & Refg. Co.'s No. 11 Hooks-Spell (workover).. Drlg. 3,699 ft.
Ocean Springs Oil Co.'s No. 1-H Palmer ..... Drlg. 1,817 ft.
Republic Production Co.'s No. 56 Dolbear (workover) ... Drlg. 2,662 ft.
Republic Production Co.'s No. 63 Dolbear (workover) .... Rigged up to deepen.
Republic Production Co.'s No. 132 Dolbear (workover) .. Testing oil and sand 3,951 ft.
The Texas Company's No. 8 Hannah-Vacuum ..... Drlg. gumbo and boulders 857 ft.

BIG CREEK—FORT BEND COUNTY

Benedum & Trees' No. 1 J. F. Ahlers ..... Derrick.
Benedum & Trees' No. 1 Moore ..... Heaving shale 4,179 ft.
Gulf Production Co.'s No. 38 Davis (workover) ..... Rigging up to deepen.
Gulf Production Co.'s No. 45 Davis (workover) ..... Sidetracked and drlg. 4,162 ft.
The Texas Company's No. 4 fee (workover) ..... Rigging up to deepen.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 4 Mayes ..... Drlg. sticky shale 3,311 ft.
Pure Oil Co.'s No. 6-A Mayes ..... Milling 2,511 ft.
Pure Oil Co.'s No. 8 Mayes ..... Drlg. shale 3,086 ft.

NASH—BRAZORIA COUNTY

Rycade Oil Corp.'s No. 26 Wisdom ..... Drlg. hard sand and lime 5,593 ft.

BATSON—HARDIN COUNTY

Ada Belle Oil Co.'s No. 130 Carlton ..... To pump 1,217 ft.
Paraffine Oil Co.'s No. 82 Paraffine ..... Drlg. 401 ft.

SOUR LAKE—HARDIN COUNTY

Austin et al's No. 1 Watson ..... Total depth 966 ft.
Lake View Oil Co.'s No. 8 Minor ..... Drlg. 1,646 ft.
Gilbert Oil Co.'s No. 107 Gilbert ..... Derrick.
E. M. Terry's No. 1 Wirt Davis ..... Drlg. 814 ft.
The Texas Company's No. 287 fee ..... Rigging up to pump 2,549 ft.
The Texas Company's No. 305 fee ..... Derrick.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 86 Cotton ..... Drlg. hard sand showing oil 1,118 ft.

ORANGE—ORANGE COUNTY

Supreme Oil Co.'s No. 3 Jackson (workover) ..... Drlg. 3,756 ft.
Sinclair Oil & Gas Co.'s No. 5 Gailliere (workover) .... To pump 3,506 ft.

GOOSE CREEK—HARRIS COUNTY

R. J. Bradbury's No. 5 Gillette ..... Drlg. 946 ft.
Cedar Bayou Oil Co.'s No. 11 Busch ..... Bailed dry 2,611 ft.; standing.
Russell Ferrell's No. 4 Gillette (workover) ..... Pulling screen to deepen.
Humble Oil & Refg. Co.'s No. 76 Simms-Smith ..... Drlg. sand and shale 5,244 ft.
Lake Shore Oil Co.'s No. 4 Duke ..... Shut down 2,594 ft.
J. M. West, trustee, No. 3 Scorrega ..... Drlg. 4,648 ft.

SPINDLETOP—JEFFERSON COUNTY

Yount Lee Oil Co.'s No. 28 McFaddin (workover) ..... Drlg. sand 5,400 ft.
Yount Lee Oil Co.'s No. 31 McFaddin (workover) ..... Sidetracking.
Yount Lee Oil Co.'s No. 120 McFaddin ..... Drlg. sand 4,612 ft.
Yount Lee Oil Co.'s No. 121 McFaddin ..... Drlg. 3,017 ft.
Yount Lee Oil Co.'s No. 122 McFaddin ..... Drlg. 1,100 ft.
Yount Lee Oil Co.'s No. 99 Gladys City ..... Drlg. 802 ft.
Yount Lee Oil Co.'s No. 11 fee (workover) ..... Testing oil sand 2,739 ft.

WEST COLUMBIA—BRAZORIA COUNTY

Continental Oil Co.'s No. 1 Hogg ..... Drlg. shale and sand 6,078 ft.
Humble Oil & Refg. Co.'s No. 3 Smith ..... Total depth 5,123 ft.; perforating casing.
Saxet Oil Co.'s No. 2 Hogg ..... Drlg. hard sand 3,672 ft.

HIGH ISLAND—GALVESTON COUNTY

Gulf Production Co.'s No. 5-A Smith ..... Drlg. 4,078 ft.
Marrs McLean's No. 6 Cade (old well) ..... Drlg. 3,962 ft.
Marrs McLean's No. 12 Cade (workover) ..... To deepen.
Marrs McLean's No. 17 Cade ..... Rig.

ORCHARD—FORT BEND COUNTY

Gulf Production Co.'s No. 20 Moore ..... Derrick.

DAMON MOUND—BRAZORIA COUNTY

H. R. Cullen's No. 2 Smith ..... Set 9⅝-in. casing; total depth 3,418 ft.; heaving shale.

REFUGIO—REFUGIO COUNTY

Benedum & Trees' No. 3 Rooke ..... Rebuilding derrick to deepen 3,365 ft.
Morgan Oil Corp.'s No. 1 Fox, Block 72..... No report.
Morgan Oil Corp.'s No. 1 Fox, Block 76 ..... Comp. 700 bbls. oil 5/16-in. choke 3,669-77 ft.
Morgan Oil Corp.'s No. 1 Johnson ..... Comp. flowing 300 bbls. 5/16-in. choke 3,650-57 ft.
Herman F. Heep's No. 1 Rutherford ..... Drlg. 300 ft.
Houston Gulf Gas Co.'s No. 1 Lambert ..... Cem. 8¼-in. casing 3,853 ft.; to test oil sand.

Houston Gulf Gas Co.'s No. 4 Fannie Heard (workover) ..Resetting screen.
Houston Gulf Gas Co.'s No. 3 Tom Heard .....Comp. estimate 40,000,000 ft. gas, 1,000 lbs. pressure, 3,603 ft.
Houston Gulf Gas Co.'s No. 2 Cummings .....Comp. flowing 30 bbls. pipe line oil 3,652-62 ft.
Houston Gulf Gas Co.'s No. 9 J. A. Lambert (workover)..Resetting screen.
Houston Gulf Gas Co.'s No. 2 Morgan-Vance .....Rig.
Union Prod. Co. No. 1 Henry Heard .....Comp. flowing 300 bbls. oil.; sand 3,679-95 ft.
Union Prod. Co.'s No. 2 O'Brien .....Drlg. lime 3,863 ft.
Union Prod. Co.'s No. 2 Mitchell .....Drlg. gumbo and lime 5,400 ft.
Union Prod. Co.'s No. 2 Powers (workover) .....Reaming 4,518 ft.
Union Prod. Co.'s No. 1 Ben Shelton .....Cem. 12½-in. casing 544 ft.
Oigufer Oil Co.'s No. 3 Ryalls .....Rig.
Refugio Oil Corp.'s No. 2 Murphy .....Comp. flowing 620 bbls. fluid, 10 per cent water, 3,682-3,708 ft.
Saxet Oil Co.'s No. 1 Ryals .....Drlg. hard sand 1,910 ft.
Saxet Oil Co.'s No. 3 Holmes Heard .....Drlg. rock 963 ft.
Houston Oil Co.'s No. 9 Wilson Heard .....Drilled plug to test oil sand 3,673-81 ft.
Houston Oil Co.'s No. 11 Pratt-Hewitt-Rooke .....Cem. surface casing 491 ft.
Houston Oil Co.'s No. 12 Pratt-Hewitt-Rooke .....Cem. surface casing 515 ft.
Independent Oil & Gas Co.'s No. 1 O'Brien .....Sand showing oil and gas 6,484-6,500 ft.; setting 6⅝-in. casing.
Independent Oil & Gas Co.'s No. 1-A J. F. B. Heard .....Coring oil sand 3,666 ft.
Independent Oil & Gas Co.'s No. 1-B J. F. B. Heard ....Cem. 12½-in. casing 493 ft.
Independent Oil & Gas Co.'s No. 2-B J. F. B. Heard .....Rig.
Independent Oil & Gas Co.'s No. 1 T. P. Shelley .....Drlg. 232 ft.
Independent Oil & Gas Co.'s No. 1 Huddleston .....Location.
Independent Oil & Gas Co.'s No. 4 Reilly .....Drlg. gumbo 2,704 ft.
Independent Oil & Gas Co.'s No. 5 Reilly .....Cored sand showing oil 3,685-87 ft.; cem. 9⅝-in. casing on sand 3,679 ft.
Independent Oil & Gas Co.'s No. 6 Reilly .....Location.
Independent Oil & Gas Co.'s No. 2 West .....Location.
Larco Co.'s No. 1 Strauch .....Core sand showing gas 3,671 ft.
Pearson Properties' No. 1 Babb .....Drlg. rock 2,304 ft.
Pearson Properties' No. 3 Fox .....Drlg. rock 366 ft.
Ed Price et al's No. 1 Mission River .....Derrick.
The Texas Company's No. 1 Shelton .....Derrick.

SOUTH LOUISIANA FIELDS

LOCKPORT—CALCASIEU PARISH

Vacuum Oil Co. & Gulf Refining Co.'s No. 25 Miller .....Setting up.
Vacuum Oil Co. & Gulf Refining Co.'s No. 3 Bordages ...Drlg. gumbo 930 ft.; 13⅜-in. casing 925 ft.
Vacuum & Gulf's No. 3 State .....Bailing to test sand 5,610 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 5 Lemke .....Comp. flowing 2,000 bbls. oil 3,812 ft.
Calcasieu Oil Co.'s No. 4 Caldwell .....Drlg. 5,400 ft.
Rycade Oil Corp.-Humble Oil & Refg. Co.'s No. 4 Gulf Land .....Drlg. rock 2,520 ft.

JENNINGS—ACADIA PARISH

Jennings Petroleum Co.'s No. 3 Syndicate fee .....To pump 1,793 ft.
The Texas Company's No. 5 Rayne heirs (King tract)....Drlg. 5,522 ft.
Yount Lee Oil Co.'s No. 5 Crowley, Sec. 48-9s-3w .....Rig.
Yount Lee Oil Co.'s No. 7 Houssiere-Latrielle, Sec. 47-9s-2w .....Drlg. 7,442 ft.
Yount Lee Oil Co.'s No. 1 E. F. Simms (northwest side)..Drlg. 6,033 ft.

EDGERLY—CALCASIEU PARISH

Strange Oil Co.'s No. 1 Reed .....Rig.
Strange Oil Co.'s No. 1 Koonce .....Rig.
Hercules Oil Co.'s No. 3 Paraffin (workover) .....Comp. flowing 1,500 bbls. pipe line oil 3,704 ft.
Rex Petroleum Co.'s No. 10 Hunter (workover) .....Drlg. 4,179 ft.

VINTON—CALCASIEU PARISH

Gulf Refining Co.'s No. 49 Star-Vincent .....Drlg. 230 ft.
Marrs McLean's No. 4 Gray (workover) .....Drlg. 1,761 ft.
Vinton Petroleum Co.'s No. 19 Vincent (workover) .....Preparing to deepen 2,352 ft.
Vinton Petroleum Co.'s No. 7 Gray (workover) .....Rigging up to pump 2,887 ft.
Wilson Broach's No. 1 Vinton .....Rigging.

BAYOU BOUILLON—ST. MARTIN PARISH

Rycade Oil Corp.'s No. 9 Bouillon fee .....Location.
Rycade Oil Corp.'s No. 2 Atchafalaya fee (oil well) ....Rig up to deepen; present depth 3,045 ft.
Rycade Oil Corp.'s No. 5 Atchafalaya fee .....Derrick.

STARKS—CALCASIEU PARISH

J. O. Davis' No. 1 Industrial .....No report.
Gulf Refining Co.'s No. 17 Lutcher-Moore .....Comp. flowing 100 bbls. 17 gravity oil 732 ft.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 7 Yount Lee .....Standing cem. 4,881 ft.
Pure Oil Co.'s No. 9 Yount Lee .....Rigged up.

SORRENTO—ASCENSION PARISH

Gulf Refining Co.'s No. 16 United Land Co.....Abandoned in salt 3,420 ft.
Gulf Refining Co.'s No. 17 United Land Co. .....Location.

MISCELLANEOUS WILDCATS

TEXAS

AUSTIN COUNTY

Empire Gas & Fuel Co.'s No. 1 Jackson, San Felipe....To deepen 3,143 ft.

BRAZORIA COUNTY

Mills Bennett Production Co.'s No. 1 Allen, Allen Dome..Drlg. hard sandy lime 4,075 ft.
Faust et al's No. 5 Faust .....Drlg. gumbo 3,236 ft.
Shell Petroleum Corp.'s No. 1 Blakely-Winston, Danbury .....Drlg. shale 2,276 ft.
Steel & Strickland's No. 1 Lockridge .....Rig.

CHAMBERS COUNTY

Chicago Oil Corp.'s No. 1 Lawrence .....No report.

FORT BEND COUNTY

Gulf Production Co.'s No. 1 Brazos Valley, Clodine .....Rigging.
Pure Oil Co.'s No. 1 Farris, Roberts Sur. .....Location.

HARRIS COUNTY

Baldwin and associates' No. 1 Kitzman, Cypress .....Shut down 4,055 ft.
R. E. Brooks' No. 1 Beall, Eureka .....Shut down temporarily 350 ft.
Golf Crest Oil Co.'s No. 1 Gulf Crest .....Standing 2,520 ft.
A. F. Belunek's No. 1 Thompson .....Rig.
Cranfill & Reynolds' No. 1 Brown .....Drlg. gumbo 4,056 ft.
Hammond et al's No. 1 Brodt .....Gumbo 1,190 ft.; shut down after fire.
Higgins Oil & Fuel Co.'s No. 1 Sladous, Mykawa .....No report.
Humble Oil & Refg. Co.'s No. 7 Warren, Hockley .....Spudded.
Humble Oil & Refg. Co.'s No. 2 Minnetex .....Drlg. 1,200 ft.
Humble Oil & Refg. Co.'s No. 1 Sladous (workover) ....Preparing to deepen from 3,453 ft.
Humble Oil & Refg. Co.'s No. 2 Woodburn .....Pulling screen to deepen.
Rich et al's No. 1 Highlands .....Derrick.
Torsen et al's No. 1 Stewart .....Shut down 2,580 ft.
Watts Brothers' No. 1 Hubert, Mykawa .....Drlg. gumbo and lime 3,680 ft.
York & Robertson's No. 1 Garrett, Harris & Carpenter Sur. .....Sandy shale 1,917 ft.; shut down.

JEFFERSON COUNTY

Gulf Production Co.'s No. 8 Bordages .....Drlg. 5,003 ft.
Gulf Production Co.'s No. 4 Burrell .....Drlg. 4,232 ft.
Gulf Production Co.'s No. 2 Guy Junker, Fannette .....Drlg. 3,412 ft.
River Oil Corp.'s No. 1 Ship Channel, Brown Survey ....No report.
Rosedale Oil Co.'s No. 1 Walker .....Standing after bailing dry 1,649 ft.
Stilwell Oil Co.'s No. 1 Brinkman .....No report.
The Texas Company's No. 2 Pipkin, Big Hill .....Cem. 6⅝-in. casing 5,779 ft.
The Texas Company's No. 1 Fitzhugh, Big Hill .....Drilled plug 5,050 ft.; coring oil sand.

LIBERTY COUNTY

Campbell et al's No. 1 fee .....Rig.
Gulf Production Co.'s No. 1 Weiser .....Drlg. 5,422 ft.
Gulf Production Co.'s No. 3 Boyt, Hankamer .....Drlg. 3,678 ft.
Humble Oil & Refg. Co.'s No. 6 Sterling, Moss Bluff ....Bailing; no show 5,661 ft.
Cranfill Reynolds Co.'s No. 1 Vajdak, Sheeks .....Cem. casing 5,750 ft.; to test sand showing oil.
Cranfill Reynolds' No. 1 Thomas Davis, Sheeks .....Comp. flowing 400 bbls. oil, ⅝-in. choke 2,336 ft.
Yount Lee Oil Co.'s No. 2 Moores Bluff, Sheeks .....No report.

MATAGORDA COUNTY

Cockburn et al's No. 1 Hawkins, Shepherds, Mott .....Location.

MONTGOMERY COUNTY

Kelley-Baker et al's No. 1 Juerges .....No report.
Pure Oil Co.'s No. 1 Damphier, Smith Sur. .....Location.

ORANGE COUNTY

Gulf Production Co.'s No. 1 J. H. Starks, Port Neches ...Drlg. 5,504 ft.
Gulf Production Co.'s No. 1 M. H. Starks, Port Neches ...Location.
The Texas Company's No. 1 Polk, Port Neches .....Set two joints screen; comp. flowing 2,200 bbls. pipe line oil, 21.7 gravity, 3,146 ft.
The Texas Company's No. 2 Polk, Port Neches .....Derrick.

WALLER COUNTY

Talbert & Markle's No. 1 Young .....No report.

SOUTH LOUISIANA

ASCENSION PARISH

Triumph Oil Corp.'s No. 2 Lacey, Sec. 20-10s-4e .....No report.

ASSUMPTION PARISH

Gulf Refining Co.'s No. 1 Armitese, Napoleonville .....Rig.
Poor Boys Drilling Co.'s No. 1 LeBarre, Sec. 47-12s-13e ..Rigging up.

CALCASIEU PARISH

Wilfred Lahay's No. 2 James .....No report.

CAMERON PARISH

Shell Pet. Corp.'s No. 6 Watkins, Black Bayou .....Trying to reset screen 4,956 ft.
Shell Pet. Corp.'s No. 1 Marceaux, Mallard Bay, Sec. 32-12s-3w .....Drlg. sticky shale and lime 5,575 ft.
The Texas Company's No. 5 Calcasieu Lake, Calcasieu Lake Dome .....Location.
Vacuum Oil Co.'s No. 1 Cameron Meadows, Sec. 21-14s-13w .....Location.
Yount Lee Oil Co.'s No. 1 Starks, Sec. 1-15s-15w .....No report.

IBERIA PARISH

The Texas Company's No. 4 Vermillion Bay .....Drlg. rock 4,100 ft.

IBERVILLE PARISH

Shell Petroleum Corp.'s No. 4 Wilbert, White Castle ....Location.
Standard Oil Co.'s No. 3 Wilbert, Bayou Blue .....Derrick.
Standard Oil Co.'s No. 4 Wilbert, Bayou Blue .....Location.
Standard Oil Co.'s No. 4 Schwing, Bayou Blue.....Tested salt water 1,986-2,001 ft.; deepened to 2,107-14 ft.; resetting two joints screen.
Standard Oil Co.'s No. 5 Schwing, Bayou Blue.....Location.

JEFFERSON DAVIS PARISH

Yount Lee Oil Co.'s No. 1 Courtney, Welsh .....Spudding.

LA FOURCHE PARISH

Gulf Refining Co.'s No. 25 Stark, Thibodaux .....Drlg. 2,621 ft.
Gulf Refg. Co.'s No. 1 City of New Orleans, Bay Champagne .....Drlg. 351 ft.

PLAQUEMINE PARISH

Humble Oil & Refg. Co.'s No. 1 Cockrell-Moran, Lake Grand Ecaille .....Drlg. gumbo 706 ft.
Humble Oil & Refining Co.'s No. 1 Lake Washington, Lake Grand Ecaille .....Total depth 4,260 ft.; reaming.
The Texas Company's No. 3 Garden Island Bay .....Drlg. 1,726 ft.

ST. LANDRY PARISH

Elbof Exploration Co.'s No. 1 Ledoux, Eunice.....No report.
Herbert-Baker Oil Co.'s No. 1 Fisher, Section 10-3s-4e...No report.
Gulf Refining Co.'s No. 1 Hoskins, Port Barre .....Drlg. 2,839 ft.
The Texas Company's No. 3 Botney Bay, Port Barre ....Started drilling.

ST. MARTIN PARISH

Bayou Teche Oil Co.'s No. 1 Fournet, Cypress Island.....No report.
Ohio Oil Co.'s No. 5 Martin, Hager .....Derrick.
The Texas Company's No. 1 fee, Hager Dome .....Drlg. 5,441 ft.
The Texas Company's No. 3 fee, Hager .....Location.
The Texas Company's No. 2 St. Martin, Hager .....Drlg. 4,321 ft.
The Texas Company's No. 4 fee, Hager .....Location.
The Texas Company's No. 1 Iberville, Hager .....Drlg. 3,312 ft.
The Texas Company's No. 2 Iberville, Hager .....Location.
The Texas Company's No. 3 Iberville, Hager .....Location.

TANGIPAHOA PARISH

Completion Oil Co.'s No. 1 Amos .....No report.
Joan Development Co.'s No. 1 Hilton, Sec. 20-9s-9e .....Cem. 6⅝-in. casing 3,008 ft.; standing.

TERREBONNE PARISH

The Texas Company's No. 4 State-Bay St. Elaine .....Location.
The Texas Company's No. 2 La. L. & E. Co., Dog Lake..Reaming 1,719 ft.
The Texas Company's No. 1 State—Bay Junop.....Total depth 4,778 ft.; oil sand; s'detracking in gumbo 4,152 ft.
The Texas Company's No. 3 State—Lake Pelto.....Rig.
The Texas Company's No. 2 State—Caillou Island.....Rig.
The Texas Company's No. 3 State—Lake Barre .....Rig.
The Texas Company's No. 4 State, Lake Barre .....Location.
The Texas Company's No. 3 L. L. & E. Co., Four Isle ....Location.

SOUTHWEST TEXAS

(Continued from Page 56)

and test a showing of gas. It is several miles farther east.

The Texas Company after drilling two core tests north of the Pettus are on the Bee-Karnes County line and has made location for No. 3 Tipps which is to be a deep test.

Houston Oil Co.'s No. 1 J. J. McKinney, 1 mile southeast of the Pettus discovery gas well, is drilling at 3,625 feet at last accounts.

Several miles south C. F. Nichols' No. 2 Hicks, reported a week ago as a gas well, opening a new field at 1,910 feet, flows about 500,000 feet of gas through two small chokes with a pressure of about 600 pounds. Deals are pending for the purchase of the property. It is a dry gas and Nichols has about 5,000 acres under lease.

In the vicinity of the Cartwright gas field in Live Oak County the Houston Oil Co. will drill deep in its No. 2 Dunning. It missed the regular pay at a little below 2,000 feet and is now down 3,325 feet.

Laredo District

Late the past week The Texas Company's No. 4-A Guerra, in the southern part of Starr County 4 miles north of Roma, was running tubing and had the job nearly completed. Corrected total depth of the hole is 3,590 feet and the sand is 3,560-66 feet. It has been standing 2,300 feet in oil for more than a week. The general impression is that an important field is about to be opened 50 miles from nearest production. It is not creating any stir, however, due to the fact that The Texas Company and the Southern Exploration Co. own the entire field. The oil is 35 gravity.

Three oil wells were completed in the Schoolfield-O'Byrne Pool in Duval County and three gas wells in the Cole-Kohler gas area. All the wells were average and depths normal. Simms Oil Co. completed No. 7 Dinn for 25,000,000 feet of gas at 1,767 feet in Survey 454. Allied Gas Co. completed No. 2 Dinn for 6,000,000 feet of gas at 1,745 feet in Survey 665, and Humble Oil & Refining Co. completed No. 1 Peters at 1,800 feet for 12,000,000 feet of gas in Survey 398.

In the Schoolfield-O'Byrne Pool in Duval some miles north of the above mentioned gas area, C. E. Long completed No. 3 Hahl at 2,328 feet for 120 bbls. of oil; Simpson-Fell Oil Co. completed No. 7 Moody at 2,361 feet for 50 bbls. of oil, and Magnolia Petroleum Co. completed No. 11 Hahl at 2,315 feet for 75 bbls. of oil.

Two dry holes were chalked up against the district during the week. W. R. Shankle abandoned at 2,200 feet No. 3 Holbien in the area between the Albercas Oil Pool on the north in Webb County and the Henne, Winch & Fariss Pool on the south, in Jim Hogg County.

Cole Petroleum Co. abandoned at 2,360 feet No. 67 Benavides, in Block 4, Survey 412, in the Cole Oil Pool in Webb County.

There were two new locations made,

one in the Charco Rendondo Pool and the other a wildcat in Starr County.

Muckelroy Pool

A territory that is being watched as much as any other is the area around Muckelroy's No. 1 Trevino, in Survey 66, in Zapata County, which came in some months ago as a discovery well though a small one, and at shallow depth. Two or three others that have been completed make a few bbls. to the well. R. F. Blankenship's No. 1 Montemayor, in Survey 64, located south of the discovery, is in the sand with total depth 1,320 feet and bailing quite a little oil but with only one foot of sand. The proven area is about 2 miles long. There have been no deep tests drilled in the proven area but some are likely to be drilled soon. This territory is about 6 miles due south of the Killam-Duggan production in Survey 277, where there is a sand at around 1,565 feet that produces around 300 bbls. daily to the well, and some wells came in for much more than that.

Rydal Oil Corp. got the lease from the Gulf Production Co. and has subleased to independent operators who have been drilling for the shallow oil with some degree of success. Blankenship's No. 1 Garza, in Survey 413, is a mile north of the discovery well and is past sand depths at 1,510 feet.

Off a little to the north of these tests and somewhat in line with them, the Magnolia Petroleum Co. recently completed two gas wells in Survey 6 on the F. Martinez land, the last gasser being 20,000,000 feet at 1,876-foot depth. The company has made one location north and the other south of these and Killam has made a location a mile north. South Texas Production Co. brought in its No. 6 Joe Jennings a mile south of the Magnolia discovery well for 20,000,000 feet of gas and has made two locations, one 2,000 feet southeast of it and the other 2,000 feet southwest of it.

SOUTHWEST TEXAS

	Bbls.
Branyon	21
Bruner	30,949
Dale	436
Darst Creek	1,320
Kingsville	261
Larremore	135
Luling	9,761
Lytton Springs	928
McMullen County	30
Medina County	24
Mirando	9,082
Somerset	1,733
Yoast	1,125
Total this week	55,805
Week ending December 7	57,784
Decrease	1,979

COMPLETIONS

Darst Creek—Guadalupe County

Turman Oil Co.'s No. 1 Miller, in the Jerome B. Alexander Survey, 150 feet to NW and SW lines of lease, completed for 300 bbls. at 2,632 feet.

Trinity Drillers-Clements' No. 1 Rand Miller, in the Jerome B. Alexander Survey, 150 feet to NW and NE lines of 25.5-acre tract, completed for 200 bbls. at 2,621 feet.

Cole Pool—Duval County

Allied Gas Co.'s (Shell) No. 1 Dinn, Survey 143, 600 feet S line, 660 feet E line, total depth 1,749 feet, 20,000,000 feet of gas, 490 pounds rock pressure.

Kohler Pool—Duval County

Humble Oil & Refining Co.'s No. 37 Kohler, in Survey 144, 330 feet to N line, 495 feet to E line, total depth 1,747 feet, 15 bbls.

Schoolfield-O'Byrne—Duval County

Magnolia Petroleum Co.'s No. 10 Hahl, Block 25, Survey 250, 30 feet E line, 150 feet S line, total depth, 2,322 feet, 75 bbls.

Cole Pool—Webb County

John J. O'Hern's No. 2 Valdez, Block 6, SW NE of 754, 663 feet N line, 667 feet E line, total depth, 2,351 feet, 25,000,000 feet gas, 550 pounds rock pressure, spraying oil.

Jennings Pool—Zapata County

Killam-Duggan's No. 11 Cuellar, in the Cerrito Blanco Grant, 645 feet SW line, 1,350 feet NW line of 886-acre tract, which is east half of 1,772-acre Cuellar tract, Cerrito Blanco Grant; total depth 1,388 feet, 5,000,000 feet gas.

NEW LOCATIONS

Darst Creek—Guadalupe County

Sun Oil Co.'s No. 1 Knoblock, in the Joel R. Robinson Survey, 150 feet each way out of the S cor. of Christopher Knoblock's 150 acres in SW part of survey, set 75 feet 12½-inch casing.

The Texas Company's No. 1 Posey, offsetting Sun Oil Co.'s No. 1 Knoblock, 300 feet to the SE, building derrick.

Cranfill & Reynolds' No. 1 Appling, in the J. Hodges Survey, 150 feet E and 150 feet most eastern SE W line of 117-acre farm, 2,300 feet NW and 3,650 feet SW of survey, Block 66, rigging up.

Humble Oil & Refining Co.'s No. 1 L. G. Denman, in the A. S. Emmet Survey, 1,700 feet S line and 150 feet NE line of survey, location. No. 2 L. G. Denman, in the A. S. Emmett Survey, 1,500 feet S line and 150 feet NE line of survey, location.

Magnolia Petroleum Co.'s No. 1 W. P. Walker, Survey No. 1, 150 feet NW and SW cor. of farm or 3,650 feet SW and 3,220 feet NW line of survey, rigging up.

Magnolia-Cole—Webb County

O. W. Killam's No. 15 Bruni, Survey 6, Mariano Arispe grant, 150 feet SW line, 150 feet SE line of Survey 6, Adams Subdivision, Bruni Lands, drilling at 1,520 feet.

Cole Gas—Webb County

E. H. Buckner's (Sun) No. 1 Bruni, Survey 5, Adams Subdivision, cor. Blocks 4, 5, 9, 10, Adams (Foltz) Sudbivision, Mariano Arispe grant, rigging up.

Jennings Pool—Zapata County

O. W. Killam's No. 18 Cuellar, Cerrito Blanco grant, 3,567 feet NW line, 2,734 feet NE line of 1,772-acre Cuellar tract, derrick.

R. F. Blankenship's No. 2 Garza, Block 2, Survey 413, 425 feet W line, 425 feet N line, location.

South Texas Production Co.'s No. 8 Joe Jennings, Cerrito Blanco grant, 2,640 feet SE line, 2,660 feet NE line; drilling at 250 feet; set 12½-inch casing at 100 feet.

Kohler Pool—Duval County

Humble Oil & Refining Co.'s No. 38 Kohler, Survey 144, 990 feet N line, 495 feet E line; location.

Schoolfield-O'Byrne—Duval County

Magnolia Petroleum Co.'s No. 11 Hahl, Block 25, Survey 250, 330 feet E line, 150 feet S line; total depth 2,312 feet; sand; set 8⅛-inch casing at 2,312 feet.

DRILLING OPERATIONS

Buchanan Pool—Caldwell County

Neuman & Speer, Inc's, No. 1 McConnell in the William Spillers Survey, 900 feet SW of The Texas Company's No. 1 Cude; completed pumping 20 to 30 bbls. per day.

Bruner Field—Caldwell County

Alexander & Smith Oil Co.'s No. 1 G. W. New, in the J. Hinds Survey, 50 feet to N and W lines, location.

Darst Creek—Guadalupe County

Gulf Production Co.'s No. 1 C. Anderson in the J. C. Darst Survey, 150 feet to S and E lines of farm in Darst Survey; location.

Gulf Production Co.'s No. 1 Thomas Dix, in the Joel R. Robinson Survey, 150 feet to NE and SE lines of lease, 300 feet SW of United North & South Survey, No. 1 Dix, location.

Gulf Production Co.'s No. 1 Tadlock, in the Jacob C. Darst Survey, 150 feet NW corner; location.

Kirby Petroleum Corp.'s No. 1 Rand Miller in the Jerome B. Alexander Survey, 3,450 feet to W line, 150 feet to N line; total depth 2,362 feet; drilling in chalk.

Magnolia Petroleum Co.'s No. 1 A. M. Baker in the Jasper Hodges Survey, 2,875 varas from SW line, 810 varas from NW line of survey; total depth 460 feet; drilling in shale.

Magnolia Petroleum Co.'s No. 1 Thomas Dix in the Joel R. Robinson Survey, 150 feet to SE line of lease, 150 feet NE of corner of Alexander Survey; drilling in Georgetown lime at 2,565 feet. No. 2 Thomas Dix in the Joel R. Robinson Survey; offset to United North & South Co.'s No. 1 Dix, 150 feet to NW line of lease, 1,000 feet to NE line of lease; drilling in lime rock at 2,420 feet.

Magnolia Petroleum Co.'s No. 1 L. V. Echols in the James Hodges Survey, 150 feet to NW and SW lines of farm, 3,650 feet to SW and 3,220 feet to NW of survey; location. No. 2 L. V. Echols in the James Hodges Survey, 150 feet to SW and SE lines of lease; derrick up.

Magnolia Petroleum Co.'s No. 1 Peter Klien in the Joel R. Robinson Survey, 150 feet to NE line of lease, 150 feet SW of SW line of Alexander Survey; total depth 2,448 feet; in lime rock; fishing.

Magnolia Petroleum Co.'s No. 1 C. Zedler in the James Hodges League, 150 feet to NW and NE lines of 100-acre tract, one-half mile S from Magnolia's No. 1 Appling; correction, derrick.

Mundine Investment Co.'s No. 1 L. V. Echols in the James Hodges Survey, in 11-acre tract out of south point of L. V. Echols tract, 150 feet to NW and SW lines of tract, 3,650 feet to SW and 4,200 feet to NW lines of survey; total depth 2,783 feet in Edwards lime; flowing small amount of sulphur water.

Penn Oil Co.'s No. 1 Rand Miller in the Jerome B. Alexander Survey; rigging up.

The Texas Company's No. 2 Dallas Wilson in the J. C. Darst Survey, 150 feet to S and W lines; derrick.

The Texas Company's No. 2 L. Anderson in the Jacob Darst Survey, 150 feet to N and E lines; shut down. No. 3 L. Anderson in the Jacob Darst Survey, 150 feet to N and W lines; location corrected. No. 4 Lemmie Anderson in the J. C. Darst Survey, 150 feet to N and W lines of farm; derrick.

Turman Oil Co.'s No. 1 Rand Miller in the Jerome B. Alexander Survey, 150 feet to NW and SW lines of lease; drilling in Del Rio clay at 2,478 feet. No. 2 Rand Miller in the Jerome B. Alexander Survey, center of lease; rigging up.

United North & South Development Co.'s No. 1 Thomas Dix in the Joel R. Robinson Survey, 150 feet to SE and SW lines of lease; total depth 2,547 feet; waiting on orders; set casing at 2,545 feet. No. 2 Thomas Dix in the Joel R. Robinson Survey, 150 feet to SE line of lease, 450 feet to SW line of lease, 300 feet NE of No. 1 Dix; moving in rig.

Pettus—Bee County

Mission Drilling Co.'s No. 6 Ray, 1,200 feet E of No. 2, drilling at 1,150 feet; set 12½-inch casing at 255 feet.

Lasater Pool—Brooks County

Houston Oil Co.'s No. 1 Holbein-Wormser in the Palo Blanco de Maguellas Survey, 330 feet N line, 6,540 feet E line, direct offset 660 feet S of No. 1 Lasater; total depth 3,814 feet; testing sand 3,807-14 feet.

Kingsville Pool—Kleberg County

Humble Oil & Refining Co.'s No. 8 R. J. Kleberg in the K.T.&I. Survey, Lot 7, Section 40, 150 feet S and E lines of lot; trying to complete for a dry gas well in a sand at approximately 2,400 feet.

Cartwright Pool—Live Oak County

Houston Oil Co.'s No. 2 J. B. Dunning in the M. B. Kilvin Survey, 1,445 feet N of No. 1; drilling in hard shale at 3,325 feet.

Agua Dulce Field—Nueces County

Agua Dulce Oil & Gas Co. and Houston Gulf Gas Co.'s No. 1 Ollie Purl, 450 feet from S and W lines of N half, Section 6, Ross Peters Subdivision; total depth 2,305 feet; drilling in.

White Point—San Patricio County

Spencer & Rhodes' No. 2 The Texas Company Fee, Lot 6, Roos Subdivision, 150 feet to S and W lines of W 50 acres; derrick partly built; standing.

Nursery Field—Victoria County

Humble Oil & Refining Co.'s No. A-3 Jay J. Welder in the D.L.&C. Survey, 1,634 feet SE lines, 736 feet SW lines; drilling in shale at 5,415 feet.

Cole Gas—Duval County

Allied Gas Co.'s (Shell) No. 2 Dinn, Survey 665, 300 feet N line, 300 feet E line; total depth 1,741 feet; sand 1,729-41, tested gas; waiting on cement; set 6⅝-inch casing at 1,724 feet. No. 3 Dinn, Survey 143, 660 feet N line, 660 feet E line of NE of SE; moving on.

Magnolia Petroleum Co.'s No. 2 King-Benavides, Block 12, Survey 694, 450 feet N line, 150 feet W line; location.

J. G. Mackay's No. 3 Dinn, Survey 454, 660 feet W line, 660 feet N line of NW of SW; location.

Simms Oil Co.'s No. 7 Dinn, Survey 454, 660 feet W line, 660 feet N line of SW of NW; total depth 1,759 feet; set 6⅝-inch casing at 1,756 feet; sand at 1,759 feet; waiting on cement.

Kohler Pool—Duval County

Humble Oil & Refining Co.'s No. 1, Peters, Survey 398, 1,495 feet N line, 1,495 feet W line; total depth 1,800 feet; sand 1,798-1,800 feet; waiting on cement; set 6⅝-inch casing at 1,798 feet.

Schoolfield-O'Byrne—Duval County

C. E. Long's (Shell) No. 4 Hahl, Block 26, Survey 250, 330 feet E line, 150 feet N line; location.

Simpson Fell Oil Co.'s No. 7 Moody, Survey 60, 2,148 feet to N line, 150 feet W line; total depth 2,355 feet; sand at 2,353-55 feet; testing; set 6⅝-inch casing at 2,345 feet.

Trapshooter Reilly's No. 3 Hahl, Block 26, Survey 250, 30 feet E line, 150 feet N line; total depth 2,326 feet; sand at 2,324-26 feet; testing; set 6⅝-inch casing at 2,323 feet; corrected depth.

Randado—Jim Hogg County

Randado Oil Corp.'s No. 35 Palacious, Survey 291, Block 2, 150 feet S line, 450 feet E line; standing at 100 feet.

Magnolia Petroleum Co.'s No. 1 Weil, Block 2, Survey 5; location.

Henne-Winch-Farris—Jim Hogg County

George S. Marshall's No. 4 Holbien, Share 3, Block 10, Survey 11, 150 feet S and W lines; derrick up. No. 5 Holbien, Share 3, Block 10, Survey 15, 150 feet N and W lines; rigging up.

W. R. Shankle's No. 3 Holbien, Block 22, Clarkson & Carscaden Subdivision (Hogg Ridge), Share 3, Los Animas grant, 90 feet N line, 150 feet W line; standing at 600 feet.

Alworth Pool—Jim Hogg County

Alworth-Stevens' No. 1 Garza, Block 12, Survey 40, 450 feet NW line, 150 feet NE line; location.

Aviator—Webb County

C. E. Mayberry's No. 9 Puig, Block 1, Edgingston Subdivision, Puig ranch, Albercas grant, 729 feet W line, 1,100 feet N line; drilling at 1,500 feet.

Carolina-Texas—Webb County

Foster Barnsley's No. 7 Webster, Survey 684, 750 feet E line, 510 feet S line of NE of SW of survey; drilling at 250 feet.

W. R. Shankle's No. 2 Webster, Survey 684, 1,170 feet W line, 150 feet S line; rigging up.

Magnolia Cole Pool—Webb County

Cole Petroleum Co.'s No. 67 Benavides, Block 4, Survey 412, 313 feet E line, 160 feet N line; total depth 2,357 feet; sand at 2,351-57 feet; testing.

Magnolia Petroleum Co.'s No. 1 F. Benavides, Survey 660, 660 feet N line, 660 feet E line of N half of SE of survey; rigging up. No. 2 C. Benavides, Survey 662, 660 feet W line, 660 feet S line; drilling at 250 feet. No. 3 C. Benavides, Survey 662, 1,980 feet W line, 1,980 feet S line; location. No. 4 Brennan-Benavides, Mariano Arispe grant, corner Blocks 16, 17, 52, 53, Myrtle E. Hale Subdivision; rigging up. No. 1 J. G. Valdez, Block 15, Survey 754, 150 feet S and W lines; total depth 2,345 feet; set 8⅛-inch casing at 2,333 feet; sand 2,333-45 feet; shows little gal. No. 1. D. Benavides, Block 14, Survey 694, 660 feet to E and S lines; derrick.

Cole Gas—Webb County

Magnolia Petroleum Co.'s No. 1 S. Perez, Survey 460, J. Poitevent, 1,980 feet N line, 660 feet W line; drilling at 2,950 feet. No. 2 King-Harper, Block 2, Survey 323, 660 feet N and E lines; location.

Houston Oil Co.'s No. R-20 Benavides, Block 5, Survey 753, 566 feet N line, 666 feet E line; total depth 2,351 feet; testing; set 6⅝-inch casing at 2,346 feet; sand at 2,346-51 feet.

Jennings Pool—Zapata County

Harry L. Fansler's No. 1 F. Cuellar, Survey 285, 150 feet W line, 1,170 feet N. line; total depth 100 feet; set 10-inch casing at 100 feet.

Blair & Acklin's No. 2 Trevino, Block 1, Survey 66, 150 feet W line, 200 feet N line; total depth 1,251 feet; showed oil, reaming down.

R. F. Blankenship's No. 1 Garza, Block 13, Survey 413, 160 feet N and E lines; total depth 1,510 feet; resumed drilling.

O. W. Killam's No. 17 Cuellar, 600 feet N line, 940 feet E line, 160-acre Cuellar tract out of 1,772-acre Cerrito Blanco grant; derrick.

South Texas Production Co.'s No. 2 Roy Jennings in the Cerrito Blanco grant, 13,000 feet to NW line, 9,800 feet to SW line; drilling at 2,085 feet.

South Texas Production Co.'s No. 7 Joe Jennings in the Cerrito Blanco grant, 640 feet SE line, 660 feet NE line; total depth 1,400 feet; drilling; set 12½-inch casing at 105 feet.

Henne-Winch-Fariss—Zapata County

Magnolia Petroleum Co.'s No. 4 F. G. Martinez, Survey 4,660 feet S line, 660 feet E line of W half of survey; total depth 600 feet; drilling (corrected depth). No. 5 Martinez, Survey 6, 660 feet S line, 660 feet E line of S line of Magnolia tract in NW of survey; drilling at 400 feet (corrected location).

CANADIAN FIELDS

(Continued from Page 63)

lime horizon in No. 4. In the north Turner Valley, Foothills Oil & Gas Co.'s No. 1 also averaged over 100 bbls., with a total of 3,167, being a remarkably steady producer.

Features of the month were the comeback of Dalhousie's No. 1, with a total of 2,616 bbls. Widney Petroleum's No. 1, now in steady production, totaled 2,190 bbls. for the month.

The coming in of Merland Oils' No. 1 in the Dalhousie sand promises to boost December figures, where there are now something like 14 wells drilling or deepening in the lime, some of which should be completed this month.

Merland Producer

The latest sensation has been the coming in of Merland Oils' No. 1, LSD 13, Section 27-18-2w5, in the extreme south of the Turner Valley. This test has uncovered what looks like a totally new geological condition, encountering in the Dalhousie sand horizon of the Fernie shales a wet gas production comparable to that usually tapped in the Madison limestone in the wells further north. When it blew into production the big gas flow caught fire and burned for some days while equipment was assembled to get the flames under control. A first attempt was made to quench the fire by forcing live steam into the casing below the flame, but the gas pressure proved too strong. Then a metal hood was dropped over the casinghead, and the flame diverted through a long pipe, after which it was extinguished at the end of the pipe. The crew worked six and one-half hours before the flames were got under control, after which the well was deluged with steam and water as a precaution against the gas again igniting.

After the flames were extinguished, one separator was connected and a production test commenced, which indicated a recovery of somewhat better than 100 bbls. a day. With two separators and increased back pressure a somewhat larger recovery is possible. Some tests were made at the request of the Merland company by J. H. McLeod of Imperial Oil, Ltd. These tests showed that the gas was wet and that the flow had increased from the first measurement of 12,500,000 feet to around 14,000,000 feet. An absorption test showed a satisfactory recovery. No definite information has been given out as to the grade of the product, though it is claimed to be a crude naphtha. If so, this is the first crude naphtha recovery from the sands above the limestone. Later reports indicate that the well, under back pressure, has cleared considerable ice and jumped its wet gas flow to around 25,000,000 feet.

Merland's No. 1 is in the extreme south of the Turner Valley Field, nearly 7 miles south of the Home producers. Production was got in the Dalhousie sands at around 4,470 feet. Unlike the crude naphtha from the lime, the gas from this well is reported free from sulphur. This is the largest producer yet found in the Dalhousie sands, other wells in this horizon not running over 2,000,000 feet. The test is cased to the Dalhousie, finishing with 8¼-inch pipe. Merland's No. 2 has been located in the same section, and derrick timbers are on the ground. Acreage is subleased from Calgary & Edmonton Corp. on one-eighth royalty.

Merland's No. 1 is thought to have uncovered a new sctructure or geolgoical condition in the far south end of the field. This condition was not present in Sterling-Pacific Oil Co.'s No. 1 on Section 33, a little to the north and west, where the drill went through to the deep lime without encountering any exceptional indications in the Dalhousie sand. Drilling in Township 18 has not been sufficiently widespread to determine the possible extent of the Dalhousie sand pool there, though following the Merland strike a number of new tests are likely to be started.

Imperial Operations

Among the Imperial wells in South Turner Valley, Mayland Oil Co.'s No. 1, LSD 10, Section 17-19-2w5, is making production test in the deep lime at 5,970 feet. Indications are for a small well, and though 539 feet in the lime, it may be drilled still deeper.

Foothills Oil & Gas Co.'s No. 3 (South West Petroleum), LSD 16, Section 8-19-2w5, is drilling 401 feet in the lime at 5,779 feet and seems to be repeating Mayland No. 1's rather negative performance. It has some wet gas, held back by the drilling mud. Further south, Sterling Pacific Oil Co.'s No. 1, LSD 15, Section 33-18-2w5, is standing with 6¼-inch casing cemented 13 feet in the lime at 5,168 feet. This test is being drilled by Imperial Oil, Ltd., under an agreement calling for a guarantee of $200,000 covering the cost, in the event of production the Imperial company is to receive cost plus 10 per cent and 40 per cent of the further production after deducting the 12½ per cent royalty to the Calgary & Edmonton Corp.

Dalhousie Oil Co.'s No. 7, LSD 11, Section 18-20-2w5, caught fire while drilling, apparently owing to a spurt of gas. New derrick is being moved in and drilling will resume at 4,466 feet. Dalhousie's No. 1, LSD 4, is cleaning with diamond drill, the work indicating that frost extended from the lime to the top of the hole.

New Imperial Undertaking

In the South Turner Valley, an important extension of Imperial Oil, Ltd., activity is indicated by the announcement of an arrangement whereby the Imperial company will develop acreage taken over by a new subsidiary, Southern Lowery Oils, Ltd. Southern Lowery Oils, Ltd., is being incorporated under dominion charter with 1,000,000 no par shares, of which 600,000 shares will go to Imperial Oil, Ltd., in exchange for its 320 acres in Section 9-19-2w5 and in lieu of the cancellation of the present existing 50 per cent production participation contract with Lowery Petroleums, Ltd., on its acreage in Section 9. The present drilling contract between Imperial Oil, Ltd., and Lowery Petroleums, Ltd., in relation to Section 17 remains undisturbed. Lowery Petroleums, Ltd., will turn over to Southern Lowery Oils, Ltd., the 280 acres it now holds in Section 9, in exchange for 250,000 shares in the new company. The remaining 150,000 shares have been underwritten at $500,000 to finance drilling operations. The new company has entire control and ownership of production, and the parent companies participate only through their stock holdings. Drilling operations will be handled by the Imperial organization under supervision of J. H. McLeod; and Maj. James R. Lowery, president, and Hugh F. Cassidy, secretary-treasurer of Lowery Petroleums, Ltd., will be officers of the new company.

South Turner Valley

In the South Turner Valley area, East Crest Oil Co.'s No. 2, LSD 4, three of the crew were badly burned by a fire. The well was undamaged, the gas being quickly extinguished. The test is drilling around 3,015 feet, some 800 feet past the lost bit. Commonwealth Petroleum's No. 2 LSD 7, Section 9-19-2w5, is down 4,420 feet, but with a crooked hole. A string of 8¼-inch casing will be cemented in the Dalhousie sands around 3,825 feet for a production test of this sand, which is from 60 to 70 feet thick. No. 2 may be finished at this depth and a new test started.

Wellington Oils' No. 1, LSD 1, Section 20-19-2w5, is definitely in the lime at 4,657 feet, and has cemented casing before drilling into production. Calmont Oils' No. 8, LSD 11, has spudded in. No. 10 is rigging up and Nos. 11 and 12 have cellar dug. Freehold Oil Corp.'s No. 3, LSD 8, is building derrick. Fairmont Oils' No. 1, LSD 4, same section, has derrick up, for a test on Alberta Pacific Consolidated acreage.

Shareholders of Sunlight Oils, Ltd., have approved the merger in Mercury Oils, Ltd., on an even basis. A total of 700,000 shares is involved. Miracle Oils' No. 1, LSD 11, is at 3,645 feet and drilling with additional shows of light crude.

Vanberta Oils' No. 2, LSD 5, Section 34-18-2w5, is working on derrick. Anaconda Oil Co., which has a test drilling in the North Turner Valley, will likely drill No. 2 in LSD 5, Section 34-18-2w5, offsetting Merland's No. 1 producer. Madison Oils, Ltd., of Calgary has secured 120 acres south of Merland's No. 1 and is reported organizing a subsidiary company to develop it.

Central Turner Valley

In the central Turner Valley, Midfield Oil Co.'s No. 1, LSD 9, Section 1-20-3w5, is drilling 8-inch hole in the Kootenays at 3,575 feet with a show of gas reported.

British Dominion Oil Development Corp.'s No. 2, LSD 6, Section 12-20-3w5, is 75 feet in the lime at 5,139 feet and drilling, with wet gas flow increased to 2,000,000 feet a day.

Waite Valley Oil Show

On the Waite Valley structure, west of the Turner Valley, Richfield Petroleums' No. 1, NW half Section 35-20-3w5, has encountered several small shows of green crude, somewhat heavier than the light crudes of the Turner Valley. Gas shows, with a little oil, were met in the Benton shales, and two later shows in the Dakota formation, the most recent at 3,560 feet. The crude tests around 39 gravity, and is not yet in commercial quantities. Drilling is continuing below 3,600 feet. This is the deepest test on the Waite Valley structure. Sharron Oils' No. 1, LSD 7, Section 5-20-3w5, has derrick up.

Border Fields

In the Red Coulee Field, southern Alberta, Vanalta Oils' No. 1, Section 4-1-16w4, has set packer separating the oil and gas sands and is being put into steady production. Oil was standing 1,400 feet in the hole and a six-hour test showed 35 bbls., but a settled production between 65 and 70 bbls. is looked for. Hol-Gar Petroleum Co.'s No. 1, LSD 1, Section 11-1-17w4, is rigged up. Fairmont Oils' No. 1 has a location in Section 9-1-16w4.

On the Mowmac structure, southern Alberta, Teapot Dome Oils' No. 1, NE Section 31-19-23w4, has derrick up. Franco Oils, Ltd., has located a test for gas and oil a mile from Cardston.

In the Skiff Field, Dauntless Oils' No. 1, LSD 9, Section 36-6-15w4, is cleaning out bridging which developed during production test. In the Milk River area, Capitol Oil & Gas Co.'s No. 1-A, LSD 16, Section 32-1-12w4, is at 2,742 feet, and making a lot of gas. Commonwealth Petroleums' No. 1, LSD 9, Section 9-3-15w4, is drilling 220 feet in the lime at 3,020 feet.

Near Oyen, Fuego Oils' No. 1, Section 34-25-4w4, which got a second show of crude at 3,163 feet, is reported deepening at 3,182 feet after cementing off water.

Manitoba Drilling

In Manitoba, Dauphin Oil Co.'s No. 1, Section 14-2-20, W.P.M., is down 925 feet and drilling after setting 6¼-inch casing at 900 feet. A water shut-off test by government officials showed the well in satisfactory condition. Drilling is going on in a black lime formation after encountering some small oil shows.

This is the only test now active in Manitoba. In the Grandview District, Irro Oil & Gas Co.'s No. 1, LSD 11, Section 18-26-23w1, was carried to 693 feet. Commercial oil production was claimed for this well at one time, but a government test disproved this. The company started a second test which was shut down at 136 feet. In the Mafeking-Porcupine Mountain Area, two tests have been drilled. Porcupine Mountain Syndicate's No. 1, Section 23-42-26w1, went to 907 feet without results, and the Ed Doherty Syndicate's No. 1, LSD 12, Section 2-43-26w1, a little farther north, was discontinued at 1,640 feet. This was probably the deepest test ever drilled in Manitoba. Seepages some years ago led to drilling activity in the Ochre River District. Holmes Oil Co.'s No. 1, drilled in LSD 10, Section 30-22-17, W.P.M., was abandoned at 1,300 feet, while Mack Oil & Gas Co.'s No. 1, LSD 12, same section, has been shut down for sometime at 507 feet. In the Treherne District, Manitoba Mutual Oil & Gas Co.'s No. 1, LSD 9, Section 34-7-10w1, was carried to 600 feet without securing commercial production. Oil and gas shows appear to have been met in most of these tests, but nothing approaching commercial quantity. The area in northwest Manitoba between Lake Dauphin and the Pasquia Hills appears to be the most promising oil prospect, though any fields developed there are likely to be small.

Ribstone Field

In the Ribstone Field, Meridian Oil's No. 1, LSD 3, Section 16-45-1w4, is in steady production and pumping from 60 to 65 bbls. a day. Meridian's No. 2, LSD 1, Section 16-45-1w4, has been cemented, apparently on top of a lime formation, at 1,776 feet, and will be core-drilled about 30 feet into the lime, where production is expected.

Saskatchewan

In Saskatchewan, Citizens Oil & Gas Co.'s No. 2, Section 14-41-24w3, is reported shut down at 2,090 feet. This test has been active till quite recently, and is the third or fourth test to be drilled in the Unity Valley, where, some years ago, Unity Valley Oil Co.'s No. 1 was reported to have got a good gas flow, and a show of oil estimated at 25 bbls. a day. The well was lost owing to water trouble while deepening, after being carried to 2,925 feet, and a second test by the same interests was discontinued at 3,000 feet.

In the Simpson district, Simpson Oil Co.'s No. 1, Section 9-29-25w2, was last reported drilling at 2,200 feet. This test is financed by local capital in the small town of Simpson and has been more or less active for several years. No commercial production has been encountered. In the Riverhurst district, a local syndicate has drilled to 528 feet, getting a gas production estimated at 500,000 feet a day. In the Readlyn district, Ribstone-Wainwright Oils, Ltd., has a test shut down at 400 feet, while at Kenaston, south of Saskatoon, Big Six Oil Co.'s No. 1, in LSD 16, Section 18-29-2w3, was carried to 81 feet in 1928, but has been inactive since then.

Canadian Western Natural Gas Co. of Calgary is reported to have carried on extensive core drilling with a view to ultimate development of a gas field in western Saskatchewan to supply the cities of that province.

Ontario Fields

In Dover township, Kent County, Ontario, Olga Oil & Gas Co.'s No. 1 was shot with 500 quarts of nitroglycerin. Some gas production was released from the Trenton, registering 1,280 pounds pressure, but the well later bridged, and till the bridge has been drilled out the result of the shot cannot be determined. In the same field Acme Gas & Oil Co.'s No. 2 has resumed drilling with 6-inch hole after landing 8¼-inch casing at 1,030 feet. Production is looked for in the Trenton limestone around 2,800 feet. Traces of oil and a little gas were met in the Onondaga lime, but were cased off. Acme's No. 2 offsets Ajax Oil & Gas Co.'s No. 4 producer.

In the Thamesville district, Kent County, Acme Oil & Gas Co. is continuing shallow drilling for crude oil. A third shallow test is now being drilled.

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HELP WANTED

LARGE OIL FIELD EQUIPMENT manufacturing concern in the East has an opening for several first class designers with at least from six to eight years of actual experience. College education desired, although not essential. Supply all information necessary from which to make a proper estimate as to the suitability of the applicant. Write Box E-39, The Oil and Gas Journal, Tulsa, Okla.

HEAT TRANSFER equipment manufacturer desires Sales Engineers, Calculating Engineers and Designers experienced in the Power Plant, Petroleum Refrigeration and Industrial Fields. Excellent opportunities for proper applicants. Give full information in first letter. All replies considered strictly confidential. Write Heat Transfer Products, Inc., affiliated with American Locomotive Company, 30 Church Street, New York City.

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A LARGE CASUALTY company has an opening for a safety Engineer, experienced with oil refineries, and field operations, about thirty-five years of age, and at least a high school education. Outline your experience, and enclose a small photograph of yourself if possible. Address Box E-45, The Oil and Gas Journal, Tulsa, Okla.

GRADUATE ENGINEER familiar with refinery operation and having writing ability. Work will require considerable traveling. Excellent opportunity for right man. Apply by letter giving education and experience. Write Box E-44, The Oil and Gas Journal, Tulsa, Okla.

HAVE BLOCK 600 acres in Montgomery County, Kansas, two deep tests drilling near this block, three shallow gas sands. Will sell some acreage or give interest for well. Lon Dietrich, Box 197, Ottawa, Kansas.

ENGINEERING DRAFTSMAN with refinery experience, for position combining the duties of both office and field. Permanent employment. Location New Jersey. State schools attended, degrees, qualifying experiences, salary required, age, and when available. Address Box E-47, The Oil and Gas Journal, Tulsa, Okla.

WANTED: NATURAL GAS SALES ENGINEER who has real ability in the art of selling gas for both domestic and industrial loads. Must have the qualifications of a combustion engineer and thoroughly experienced in appliances. One with ability to serve as manager preferred. State experience, salary, and full details, and if possible enclose photograph. Write Box E-48, The Oil and Gas Journal, Tulsa, Okla.

WANTED DESIGNING ENGINEER with a technical education with two or three years of drafting experience in oil refinery work. Permanent connection for proper party. Apply by letter, giving experience in detail, salary desired, time required to report; send recent photograph. Shell Petroleum Corp., Sellers, La.

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YOUNG GEOLOGIST, six years experience, Oklahoma, Texas, and New Mexico, wishes to represent a newly organized company or individual on an interest and salary basis. Active member A.A.P.C. Now employed. Write Box E-25, The Oil and Gas Journal, Tulsa, Okla.

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EXECUTIVE, engineering, mechanical, broad business experience. Thorough knowledge of maintenance and repair, operations and construction. Write Box E-38, The Oil and Gas Journal, Tulsa, Okla.

ENGINEER—Four years' experience as instrument man and party chief in land surveying, pipe line locations and general oil field engineering work. Wants position where ability and experience is needed. References. Write Box E-42, The Oil and Gas Journal, Tulsa, Okla.

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CORRECTION NOTICE

In the December 5 issue the Classified Advertisement of W. E. Mills, 416-20 Petroleum Building, Oklahoma City, Okla., was erroneously printed. The advertisement should have read: "Will sell 2,000 acres semiproven gas leases, Wheeler County, Texas, and will complete two wells for $35,000."

WILL SELL 2,000 acres semi-proven gas leases in Wheeler County, Texas, and will complete two wells for $35,000. W. E. Mills, 416-20 Petroleum Bldg., Oklahoma City, Okla.

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OIL LEASE for sale. 160 acres, southwest 35-3-10. Drilling close. Mrs. Koons Hodgin, Temple, Okla.

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The Oil and Gas Journal
Classified Wants Department

Fog Depresses Market in Chicago Area

Consumption of Gasoline Reduced, Kerosene Neglected and Demand for Furnace Oil Interrupted by Unseasonable Weather

By J. B. Waldo

CHICAGO, Dec. 16.—Today was the ninth day since the sun has shown in this city and a like condition prevails over much of the territory. To the north of this latitude the continuous fog with light rain or a little snow has made the highways too slippery for safe driving. The consumption of gasoline has been reduced to a marked degree by this condition. Jobbers are not buying and the active efforts made by refiners to secure business only results in reducing prices. While some of the refiners are still holding for their regular price others are making offers that threaten to entirely unsettle the market. Quotations of 6 cents Group 3 U. S. Motor gasoline were received by some of the marketers from Group 3 refiners this morning and some gasoline stated to be full U. S. Motor specifications was offered for slightly less than that price. These quotations were made in competition with the price at which the balance of purchases of gasoline sold so freely by a differential refinery were offered for sale in this vicinity. The 400 endpoint and the 437 Navy gasoline were also pressed for sale. It was distinctly a buyers' market with very few buyers. The major refiners were still quoting 7¼ cents but jobbers were being quoted as low as 6¼ cents although most sellers were trying to sell at 6½ cents.

Kerosene Neglected

The kerosene market was neglected, very little doing by anyone. The continued mild temperature has interrupted the demand for furnace oil but there is movement on contracts. Distillates are unchanged but the zero gas oil with a good odor and low flash is strong, being lightly offered and as far as can be determined in light supply. Straw zero gas oil is practically out of the market. The inquiry for the industrial fuel oils is not as active as it was a week ago but the market continues strong on all grades of zero and the ordinary cold test oils where the latter have a fairly low viscosity. Warm weather has had some effect on reducing the demand for the heavier fuel oils. Many of the larger buyers are already engaged on inventory work and all are reducing rather than adding to the storage of fuel oil or any material.

Market Was Quiet

The only market in which there was any activity during the past week was industrial fuel oil. Even in the industrial fuels the demand was active only because of the difficulty in securing supplies and when the desired oil was to be had, the buyers would take in more than they would under ordinary conditions of supply.

The demand for gasoline was light. Shipments on contracts were going forward in fairly good shape, but there was very little spot demand. Many of the best spot buyers took advantage of the low prices made them as the result of the movement of one of the larger middle western refiners to reduce its inventories. This gasoline, which was largely disposed of to marketers, was still being offered at prices below the market for material from other sources. The quantity of gasoline offered and sold to the marketers and direct to the trade was greater than the territory into which it could be shipped profitably could absorb. The result of this reduction of demand through purchases of this gasoline by spot buyers was to further depress the market and some U. S. Motor gasoline was offered out of Oklahoma at prices which in this vicinity competed with the Illinois product. These refiners were an anxious for business as their competitors in this state could be.

Price Situation

While the major refiners still held to their open quotation of 7¼ cents, some were permitted by the sales management to accept orders at 7 cents, where it was impossible to secure a better price from desirable accounts in the face of responsible competition. At the same time gasoline from Group 3 was quoted at 6½ cents to the trade and at 6¼ cents for resale. Usually of late there has been little distinction made between the quotations to the trade and prices named for resale. At least when some refiners are offering to sell the marketer at a price other refiners will make the same offer to the trade direct, or so it seems from the reports of quotations made to marketers and to jobbers. The demand is light for the U. S. Motor grade at any price. Distributors claim they are doing a better business than a year ago, although the average increase is much less than the figure reported by some of the large integrated companies which have been industriously adding to their outlets by various ways, including purchases, mergers and constructions.

The reduction of 1 cent in Ohio is another example of the results of too many sellers for the number of consumers and the volume of consumption. Prices were cut and recut as the consumption decreased and the quantity of products was not correspondingly reduced. Some of the gasoline which was so suddenly dumped went into Ohio. The result is that prices in that state are so unsettled it is difficult to secure the real prices at which orders are being placed. The condition in Detroit, where local refiners are competing with nearby plants, is very serious and there has been some talk of a drastic cut in the tank wagon price, but so far the larger distributors have not followed the reductions made, partly for the reason that under the law they would have to make the same reduction at all stations. For this reason some describe the situation there as better than a year ago but the prices made in open competition for any quantity business on commercial accounts where there is no posting of the price indicate serious competition and a very strained situation.

Antiknock Demand

The demand for antiknock gasoline continues to be a real feature in this market and they are cutting into the sale of the other gasolines. The 60-62 400 endpoint is also growing in favor and predictions of its further increase in the percentage indicates that many refiners have come to the conclusion that a better motor fuel than the 58-60 437, or U. S. Motor specifications, is due to the motorists. Several motorists, none oil men, who use their car in their business and drive in all kinds of weather, have been asked as to their favorite gasoline and they each and all used some other than the regular U. S. Motor grade. The inquiry was confined to normal priced gasoline not to include the gas that carries a premium. Several of these drivers said frankly they could not get anywhere with the regular grade, although in each case they named some one of the good refinery brands which are using the U. S. Motor specifications. The average motorist wants a gasoline with rapid acceleration and snappy, quick impulses rather than a gasoline which will give mileage. Very few motorists here make any check of the number of miles per gallon of gasoline their car will give them in service. The higher tests have just about held their own on reports of impending export orders. It is stated here such orders will be placed for delivery to the shippers in January.

Kerosene Dragging

Kerosene has just dragged along with no improvement in the demand nor any changes in prices that really count. There is a decided impression in some parts of the territory that kerosene is being superceded by distillate as a tractor fuel. Some jobbers state they have found it really gave better service than kerosene. Others say they could see no difference except in the price which at the time when the tractor demand was at its height was much less than for kerosene and paid the dealer as good or a better profit. The improvement in the oil burner is changing the demand for furnace oils from distillate to gas oil, and, according to several reports, the distillate will be used as tractor fuel in place of kerosene.

The furnace oil demand dropped off considerably last week with the return of mild weather. Distillate movement is quite good, but it is chiefly on contracts and the spot buying has been light all week. The offerings are quite large and some refiners who have been out of the market have had a certain number of cars to dispose of. At the beginning of the season these refiners estimated the requirements of their regular customers would take all of the distillate they would run. Now they find the takings have not been as large as estimated and they have some accumulations to move to prevent increasing their distillate storage. The price range has not changed, a good 38-40 distillate selling at 3¾ to 3⅞ cents with some holding for 4 cents, but the material has to be extra choice or the buyer easily satisfied to secure the 4-cent price.

Gas Oils Easy

Gas oils of the straightrun variety are still rather easy in tone and hard to move except on contracts, which in most cases were made earlier in the season and have lower prices than the present prices at which overhead gas oils are offered. The gas companies are slow buyers and are largely running on contract material or from storage and are only occasionally found among the buyers in the spot market. The zero gas oils of all gravities are more firmly held and the demand is more active than for the straightrun grade. The heavier gas oils are really moving better here than the full 32-36, as they are chiefly used in the larger type of burners which are found in hotels, department stores and apartment houses where more heat is required than in the homes. Several sources of supply for the fuel oil distributors have estimated they are selling a greater proportion of gas oil compared with distillate than a year ago. Some believe their sales show five or six times as much gas oil as distillate is being used. Of course the distillate burners are confined to the homes where the consumption is small and fairly regular, while the gas oil burners are used not only in the homes but in all types of domestic oil burners. An argument as to the number of burners using the two varieties of fuel oil, gas oil or distillate, cannot be based on the fuel sales. Prices for all grades of gas oil are unchanged.

Said one buyer of fuel oil last week, "The question with us right now is to get the oil, not the price that we shall pay for it." This situation has been intensified during the past by the continued drain on available stocks and the insistence of buyers who have been suddenly disconnected from their regular source of supply and are seeking new sellers of fuel oil. Some of these concerns who are seeking to buy heavy industrial fuel oil have large requirements. One buyer stated his company has been using recently three cars a day which it had purchased as needed from month to month from the Sinclair Refining Co., from whom it had bought oil for five or six years. One of the larger fuel oil tank car sales organizations estimates they have been called upon for fuel oil by at least 50 of the former Sinclair accounts. They stated some of these buyers had not called on them for three or four years, while others were entirely new to them. Unfortunately, they are obliged to hold their purchased material for their contracts and regular trade and are not in shape to take on a large line of immediate business. The small local refiners who might have fuel oil to sell have very small amounts to offer. More distant sources of supply are reported to have held little encouragement they would have such material to move during the remainder of this month. Prices are unsettled to some extent by the situation which some believe is but a flurry and that higher prices will bring out plenty of fuel oil, but others see no change for some time except towards additional strength in the fuel oil market. Some refiners have sold 22-26 fuel oil with only a fair cold test but low in sulphur as high as 80 cents for Group 3, for resale, and a zero oil of this grade might bring 90 cents. In a general way the local range of quotations is 5 cents higher for the ordinary cold test oils and 10 cents higher for the zero oils. Any quotations are for only very short acceptance, as few are taking any risk by overselling the amount they have coming to them. There is a great deal of complaint of slow deliveries and some claim it is even harder to get the oil shipped than to buy it.

Light Demand for Lubs

The demand for lubricating oils is very light right now, just the little required by dealers to take care of their day-to-day business. A good deal of contracting is going on and some contracts bear a flat price for the season. What these prices are has not been revealed. There is a good deal of opposition among some compounders and tank car dealers in lubricating stocks against the contract offered by the Mid-Continent refiners. Some buyers were able to secure their 1929 requirements of bright stocks at 5 cents or more below the minimum price named in the present quotations with no change throughout the season. Some have not placed their orders or have ordered sparingly. The merits of the still reduced oils are being talked by those refiners whose motor oils are not blended but reduced by slow distillation to the required viscosity.

Tank Wagon Scale

There has been no real suggestion of any change in the tank wagon scale over Standard Oil Co. of Indiana territory and there is little possibility of any change during the remainder of this year. Distributors are making a wide margin and have no opposition to the continuance of the spread. There is quite a belief that the new code, once it is really working, will do away with a lot of the secret rebating which has been so potent a cause for reduced profits even when the margin was large. Locally, the cut in the tank wagon price has had no perceptible result.

The fuel oil distributors are feeling the pressure of higher costs and are asking an advance of one-half cent effective on the oils on December 16. Some large

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Eastern Refined Market Holds Up

Competition After First of Year May Lead to Downward Readjustment in Gasolines. Export and Fuel Oil Markets Firm

By A. E. Mockler
New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, Dec. 16.—Gasoline and kerosene have held up well in Eastern markets this week, with price changes confined to further reductions in cylinder stocks and a slight easing off on some grades of petrolatum. A little shading in bulk gasoline has continued in evidence at Baltimore, Philadelphia and Boston, but the general market as yet remains unaffected, and it is probable it will round out the year at current levels.

There are signs of growing competition in gasoline sales, however, and the market position is not as favorable as it has been for the past several weeks. Thus far, Boston, Philadelphia and Baltimore are the principal markets affected by this competition, and it is not improbable that shortly after the turn of the year prices at these points may be adjusted downward. Much, however, depends upon the weather and the resultant consumption of motor fuel in this area. While no further changes in tank wagon schedules have been made since the cut in Buffalo and Syracuse early in the month, the underlying tone in tank wagon market, as is the case in the refinery market, is less firm.

In the export field, the principal development is the recent sharp advance in Panuco crude, which has carried the asking price up 20 cents per barrel since the first of the month. Fairly heavy buying for export, coupled with contracting for 1930 by American refiners, has been responsible for the upward move. In export gasoline markets, trading has been along routine lines during the week under review.

A sharp increase in consumption of furnace oil, incidental to the cold weather, is keeping marketers busy in maintaining deliveries, and the market remains in strong position.

Tank Car Gasoline

Gasoline is still moving to the distributing trade in satisfactory volume, considering the season of the year. Consumption has fallen off steadily since the first of the month, but current volume is still ahead of that reported for this time last year.

Sellers are still maintaining the market at 8¾ cents per gallon on U. S. Motor in tank car lots, with some sellers asking a premium of one-quarter cent per gallon for the California product. At South Atlantic ports, the market is generally quoted at 9 cents, although competition from time to time at Philadelphia and Baltimore carries the market at those points down to a parity with the Bayonne quotation.

Growing receipts of gasoline from the Royal Dutch and Pan American refineries in the Dutch West Indies are proving no small factor in the East Coast situation, and these imports, coupled with the continued large arrivals from California, are furnishing stiff competition here. Eastern refiners have cut their gasoline production somewhat, and are making an effort to balance production and consumption. Every effort will be made by refiners in this area to avoid the accumulation of heavy reserve holdings of gasoline in order to protect the position of the market during 1930.

Refiners are treating a larger percentage of their current runs for distribution in the premium motor fuel class, and it is probable that this tendency will remain apparent until the close of the first quarter of 1930. While sales of these premium fuels show sharp increases in the cold weather months, refiners believe that the seasonal let down in the consumption of high-test fuels next spring will not be as great as in previous years. With practically all of the new models of automobiles featuring high-compression motors, it is believed that more and more motorists are being "educated up" to the point of using premium fuels all the time.

Tank Wagon Gasoline

While a little of that well-known "local competition" is reported at one or two points in the territory, the general position of the market in retail distributing channels is fairly steady. Consumption has fallen off a little, due to the more unfavorable weather conditions now prevailing, but sales levels are holding up surprisingly well nevertheless.

The influence of the industry's code of ethics is now becoming more and more apparent as visits to retail filling stations disclose an absence of the former "one gallon free with every five"; "free quart of lubricating oil with every ten gallons of gas," and similar price-cutting dodges. Another development has been the withdrawal of many stations in Greater New York from their previous agreement with the American Automobile Association whereby members of that motorists' organization were granted discounts of 2 cents per gallon on gasoline purchases upon presentation of coupons furnished members by the association.

Kerosene

An active market for water white kerosene in tank car lots is reported locally, and conditions are reported equally favorable at other refining centers in the East Coast area. Cold weather has greatly stimulated consumption and heavier sales to the domestic trade, as well as increasing export demand, has resulted in a material depletion of refinery holdings.

Water white continues steady at 7¾ cents per gallon in tank car lots at refineries, with jobbing demand active.

Steadiness continues in evidence in the tank wagon market position in New York and New England territory, quotations remaining without change. Sales are heavy.

Most of the chain stations of the various marketing companies in this area have expanded their activities this year to take in the sale of alcohol, glycerin, and various antifreeze compounds. In previous years, most of this business was left to the automobile supply stores and some of the independent dealers.

Petrolatum

Amber petrolatum has eased off a little, with spot stocks offered at 3⅜ cents per pound, off an eighth, with extra amber quoted at 3½ cents per pound, also off an eighth, and lily white showing a corresponding reduction at 7¼ cents per pound. Business has showed a little seasonal slackening, but sellers are looking for an early improvement after the turn of the year and the completion of inventories at the plants of manufacturing consumers.

Lubs

Spot business in lubricating oils has fallen off considerably during the week, and the market is in easier position on all grades of cylinder oils. Prices in the field show considerable variance, and the spot market is reflecting this condition. Offerings of 600 steam refined are reported this week at 32 cents per gallon, off a half cent, with similar declines shown on 635 steam refined at 34 cents and 650 steam refined at 38 cents per gallon. The market for 600 Pennsylvania flash is off 2 cents at 41 cents per gallon, with 630 flash showing a corresponding reduction at 45 cents per gallon. Bright stocks are again weaker, with light 140-150 quoted at 54 to 56 cents per gallon, and dark at 53 to 54 cents. Oil City "E" and Warren "E" are both unchanged in price.

The domestic trade has been holding down purchases in an effort to minimize stocks for year-end inventory purposes, and the trade is looking for a dull market over the balance of the year. Demand is expected to show an early recovery after the turn of the year, however.

Movement of red and pale oils has also eased off, due to the year-end dullness, and tank car movement has fallen off somewhat. Prices, however, remain unaffected by this condition.

Paraffin Wax

Jobbing demand for fully refined paraffin wax has fallen off further, and the market continues in easy position. Consuming manufacturers are taking stocks in limited volume against resting contracts, but there is a general disposition shown to defer additional deliveries until after the turn of the year, manufacturers moving forward only sufficient supplies to take care of their more pressing requirements. Export business has picked up a little, but some of these foreign sales are being consummated at the expense of prices.

Refinery holdings of paraffin wax are considerably larger than at this time last year, and the trade is looking for some selling pressure to develop at the year-end when, it is expected, some refiners may find it necessary to lighten the load to bolster up their cash position at the start of the year. It is not believed, however, that this weakness will be widespread.

Fuel Oil

Spot movement of fuel oil has shown some increase during the week, while deliveries against standing contracts are also holding up to large totals. Refiners continue to quote the market at $1.05 per barrel for bunker "C" in bulk at refinery terminals. A little commercial contract business is being written for 1930 on this basis. Industrial consumption of heavy oil has shown a steady increase during the week, and volume is now running at close to record levels for the year.

While market sentiment among some interests was decidedly bullish regarding the price outlook for fuel oil a few months ago, it is now felt that the market will remain "pegged" at the present level, at least for the first half of 1930. While Eastern refiners have succeeded in working the market into a fairly stable position, growing imports from the Dutch West Indies are expected to keep the market well supplied during the new year.

There is keen competition among marketers for the business of the many new large office buildings now being constructed in New York City. These buildings are all large consumers of heavy fuel oil, and are in the market the year 'round.

Diesel Oil

There has been a good volume of 1930 contract business in Diesel oil written during the past week. Contracts are being placed at a minimum of $2 per barrel and a maximum of $2.10 per barrel, bulk, at terminals, indicating that the large refiners do not anticipate any appreciable upward movement in price for this oil next year.

One marketer, discussing the outlook for next year, voiced the belief that bunker fuel would probably close 1930 at a price level above that now prevailing, but declared that he felt that marketers were safe in contracting Diesel oil at $2.10 "top" for the year, adding, however, that if the market for that fuel should go over the $2.10 mark it would be "just too bad" for the sellers sewed up with the $2.10 maximum contracts.

Marine companies, as a rule, are showing no hesitancy in booking their requirements for 1930 at the $2-to-$2.10 range, and eastern refiners expect further material gains in both production and sales during the coming year. California Diesel oil is arriving at Atlantic Coast markets in a larger way, but the Pacific Coast is not expected to ship eastward in quantities sufficient to disturb the market in this area. Thus far, practically all of the California Diesel oil moved eastward this year has been handled by large Eastern companies, and has moved readily into consumption against contracts held by these marketers.

Gas Oil

The large gas companies in the metropolitan area have been heavy buyers of gas oil during the week, and the market remains in firm position. The principal refiner is quoting recycled oil at 5¼ cents per gallon, bulk, at terminals, with other sellers quoting 28 plus oil as low as 4¾ cents per gallon.

The lower grades of gas oil continue to meet with an active call for delivery against furnace oil contracts, and car lot business has shown considerable improvement. Many jobbers have come back into the market this week to fill their depleted storage, and the outlook in this branch of the market continues most favorable for the balance of the year.

California gas oil is reaching here in some volume, but this oil is not finding its way onto the open market, and presumably is moving into consumption at prices in line with those prevailing on spot eastern oil.

Furnace Oil

Domestic heating oils remain in firm position. While there is still some talk of an advance in price for the higher grades, the consensus of opinion seems to be that the market will finish the season at present levels, unless some drastic change in the general market situation should intervene.

Refiners, while not venturing an estimate as to the actual gain in furnace oil sales this season, nevertheless declare that the increase in volume has been "substantial" and look for a continuance of this situation during the next few years, as the popularity of oil burners for domestic heating grows. While the recent bad break in stock prices may adversely affect spring business in burners, it is not believed here that the market has received any serious setback from this development.

Export Markets

A cargo of approximately 75,000 bbls. of 64-66 was reported closed this week for shipment to France during January at the export association schedule. Atlantic Refining is reported to have booked an order for 3,000 tons of Navy and 3,000 tons of 64-66 for shipment to France, at association prices, completing the cargo with a shipment to its marketing subsidiary in that country. Aside from this business, export gasoline trading has been nil this week.

Panuco crude is reported quoted at 85 cents per barrel, f.o.b., less tax, this price being 20 cents over the quotation at which business was done a fortnight ago. At that time, a local seller booked Panuco crude for 1930 shipment to England at a graduated scale running from 65 to

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It is difficult to predict to what proportions the manufacture of natural gasoline will ultimately grow in this field, for at present there are many factors retarding its development. The curtailment of production through the shutting in of the existing wells and the shutting down of drilling wells as they near pay, probably are the greatest retarding factors. In addition to this, manufacturers are making more of a concerted effort to unify their operations instead of duplicating, as was the case in many other large fields. This plan of unification is likely to be worked out to a greater degree than at any time in the past because of the relatively few companies holding leases there and because practically all of them are large companies and in a position to make their operations flexible.

At present, several major gasoline manufacturers are planning to build large plants and are in the field lining up such gas supplies as are available. When a sufficient volume is secured they will proceed with their building program.

Present Conditions

At present, there are five plants operating in the field and these have a combined capacity of 150,000 gallons daily. Of these two are owned and operated by the Indian Territory Illuminating Oil Co. and each has a capacity of 40,000 gallons daily. A third plant is practically completed, which will add 40,000 gallons to the company's capacity. In addition, two or three plants are being considered and will be built at such a time as the supply of gas is increased to warrant the expansion of the present facilities. With the Indian Territory Illuminating Oil Co. holding the bulk of the acreage in the field as it is outlined at present, it is likely that company will become the major manufacturer as the field is developed.

The Sinclair Oil & Gas Co. is the second largest manufacturer in the field, the present plant making approximately 35,000 gallons daily. Additions to this plant are under way and when completed in the near future will increase the capacity of the plant to 80,000 gallons.

The Shell Petroleum Corp. is operating a 25,000-gallon plant at present and will likely expand its facilities as additional production is brought in on the company's leases, but the company has no definite program of expansion with respect to new plants at this time. The Coline Gasoline Co. is the fourth company to operate in the field. It has a 10,000-gallon plant operating at present and it is adequate to handle the gas from the company's wells but at such a time as the proration is lifted there will be an excess of gas and additions to the present plant will very likely be made. The Coline company has no definite plan at this time regarding these additions nor the building of other plants.

Phillips May Enter

Another major company likely to operate in this field in the near future is the Phillips Petroleum Co. At present it is seeking adequate gas supplies in the field to justify its entry and, should a

(Continued on Page 141)

Who's Who
IN NATURAL GASOLINE MANUFACTURE

Empire Oil & Refining Co.*

The natural gasoline division of the Empire Oil & Refining Co., one of the City Service group of companies is a major manufacturer of natural gasoline in the Mid-Continent Field. The gasoline division has kept pace with the expansion of the crude oil production division and also is a large buyer of casinghead gas from other companies.

The company also has plants on the natural gas lines of other City Service subsidiaries which transport and distribute large quantities of fuel gas in several southwestern states. Due to the variation in operating conditions the Empire division operates practically all types of plants.

The company expanded its natural gasoline division rapidly when the Greater Seminole area in Oklahoma was discovered and its production in that section now totals approximately 100,000 gallons daily. The company is the largest manufacturer of natural gasoline in Kansas with ten operating plants. The company also has two operating plants in Texas.

The management of the natural gasoline division centers in the general offices of the company at Bartlesville, Okla. E. L. Peck who has been active in the natural gasoline industry for several years is manager. G. M. Davidson is general superintendent of plants, S. B. Crooks is sales manager.

The refinery division of the Empire company operates three refineries in Oklahoma and one in Texas with one practically completed at East Chicago, Ind. The gasoline division sells part of its output to these refineries and the rest is sold to buyers in all parts of the country.

Following is a list of the company's plants:

Location in Field—	Daily Capacity
KANSAS	
Sec. 13-34-3e, Cowley County	15,000
Sec. 13-35-13e, Montgomery County	10,000
Sec. 16-23-9e, Greenwood County	10,000
Sec. 29-23-10e, Greenwood County	8,000
Sec. 8-23-11e, Greenwood County	8,000
Sec. 9-26-8e, Butler County	5,000
Sec. 17-32-1e, Sumner County	8,000
Sec. 2-23-9e, Greenwood County	3,000
Sec. 14-22-11e, Greenwood County	3,000
Sec. 17-28-1e, Sedgwick County	35,000
OKLAHOMA	
Sec. 35-25-10e, Osage County	30,000
Sec. 16-11-11e, Okfuskee County	6,000
Sec. 25-9-6e, Seminole County	25,000
Sec. 34-9-6e, Seminole County	20,000
Sec. 41-9-6e, Seminole County	25,000
Sec. 11-8-5e, Seminole County	25,000
TEXAS	
Sec. 19, Blk. Y, Morris & Cummings, Borger, Tex.	4,000
Sec. 152, Blk. 3, L&G.N.R.R.	2,000
Total	242,000

*Third of a series of articles describing briefly the operations of the major natural gasoline maunfacturers.

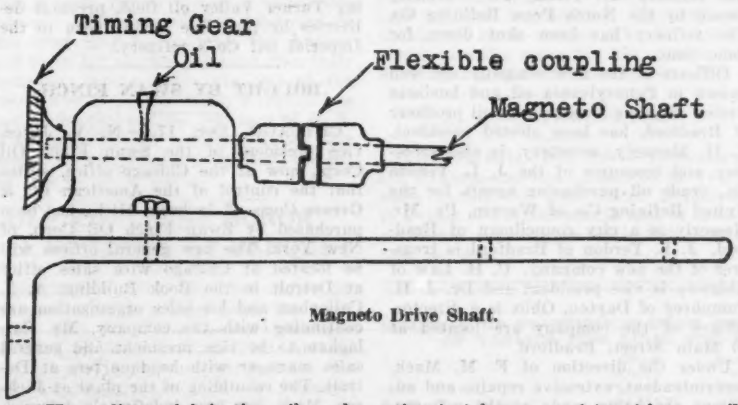
A PRACTICAL SUGGESTION

MAGNETO DRIVE SHAFT

The most delicate and intricate part of a gas engine is the ignition system and particularly the magneto. Every precaution should be exercised to keep them in good working condition. Leather or canvas coverings provide a means to protect them from excess oil and particles of dirt that may collect around the bearings. The ordinary lubricating oil used on other machinery should not be used on the magneto and only the very highest quality of light lubricating oil used.

With many of the gas engines, the magneto is driven directly by a rigid beveled gear. When this gear becomes worn, there is a possibility of throwing it out of alignment; also the sudden shocks or strains must be absorbed by the two small delicate magneto bearings. The result is excessive expense and ignition troubles.

The suggestion given here is to provide a block bearing with about three linear inches of bearing surface. This throws all the strain on a rugged bearing. The motion is transmitted to the magneto by a flexible coupling, carrying either a steel or composition disc. A plate can be welded to the magneto bracket and it is thereby extended to carry both bearing and magneto. The gear and coupling can be attached to shaft by either a pin or by a key. Lubrication is taken care of by either an oil cup or a ring oiler.



Magneto Drive Shaft.

The bearing may be made at most any machine shop and since the flexible coupling is provided, great accuracy in machining is not necessary. The flexible couplings are carried in stock by some of the gas engine manufacturers.

Practical suggestions by those connected wi h the construction and operation of natural gasoline plants are invited. Payment will be made as soon as suggestions are accepted. Address all communications to the Natural Gasoline Department, The Oil and Gas Journal, Tulsa.

ELECT WATERS PRESIDENT OF SUPPLY ASSOCIATION

M. F. Waters, president of Hanlon-Waters, Inc., of Tulsa, was elected president of the Natural Gasoline Supply Men's Association at a meeting held in Tulsa Thursday. Mr. Waters succeeds J. H. Satterwhite who was the first president of the association. Mr. Satterwhite continues as a member of the board of directors.

Other officers elected at the Thursday meeting were W. A. Schleuter of the Re-

M. F. Waters

finers Supply Co., first vice president A. J. Kerr, Pittsburgh Equitable Meter Co., second vice president; M. H. Kotzebue, Tulsa Boiler & Machinery Co., treasurer, and Ray M. Miller, secretary. In addition to the officers the following are directors of the association: R. E. Howe, Atlas Supply Co.; W. G. Cummings, Clark Brothers; and J. B. McMahon, the Foxboro Co.

The supply men expect to co-operate with the Natural Gasoline Association of America in the same manner they have in previous years. The date of the annual convention will be announced shortly after the first of the year.

MOVE PHILFUELS OFFICES

The general officers of the Philfuels Co., a subsidiary of the Phillips Petroleum Co. specializing in the manufacture and sale of special products obtained from casinghead gas, last week were moved from Bartlesville, Okla., to the General Motors Bldg., Detroit, Mich.

The move was made in order to centralize the various activities of the Philfuels Co. at the Detroit offices. The company has recently expanded its activities at middle west points and the Detroit location permits a closer contact between the management and the various operating units. As one phase of its activities the company has either completed or is now installing 14 retail units at scattered points to distribute propane which as liquefied gas is being sold for domestic fuel. The executive offices, engineering and construction department, material purchasing, drafting and the stenographic work which were formerly located at Bartlesville have been moved to the Detroit offices. G. G. Oberfell is executive vice president, R. W. Thomas, vice president and general manager, and N. W. Strale, chief engineer.

Brief Items for Petroleum Refiners

UNION OIL COMPANY TO BUILD NEW TYPE TANKER

LOS ANGELES, Calif., Dec. 14.—The Union Oil Co. of California has asked some of the leading Coast shipyards for bids on two new tanker steamers involving an expenditure of approximately $2,000,000. The new tankers will each have a capacity of approximately 13,500 tons or approximately 100,000 bbls. of oil. The tankers with 12,000 bbls. of bunker fuel oil will have a cruising radius of 16,000 miles.

The takners will incorporate new features in tanker construction. They will be 480 feet long, with a beam of 68 feet and a loaded draft of 27 feet. They will also be the first high-pressure double-reduction geared steam turbine-driven tankers built.

Twin turbines, developing a total of 4,200 horsepower, will give the tankers a loaded speed of 11.5 knots. High engineering efficiency is also promised by the exceptionally high pressure steam plant, consisting of express type water-tube boilers developing 375 pounds of steam pressure to the square inch—extra power being attained by 200° F. superheat, thus giving a total steam heat of 650° F.

The ships will be constructed on a combination of Isherwood patented longitudinal framing and transverse framing, longitudinal framing being utilized throughout the cargo space—amidships—and transverse framing on the forward and after sections. They will have 16 equal-size cargo tanks—eight on either side of a center-like bulkhead—each tank having its own summer tank on the outboard side.

All modern devices for aid in navigation, handling ship and cargo will be utilized, including the Oertz streamline rudder, Sperry gyroscopic compass and automatic steersman, Kolster radio direction finder, patent fire prevention system, and two rotary pumps capable of discharging the ship's cargo in 15 hours, or at the rate of 6,500 bbls. per hour.

NEW INTERPRETATIONS OF CODE OF ETHICS RULES

NEW YORK, Dec. 14.—As the result of discussions which took place at the annual meeting of the American Petroleum Institute in Chicago, the National Committee on Interpretation of the Code of Practices for Marketing Refined Petroleum Products has announced interpretations for Rules 2 and 10. The former applies to bona fide leases and the other to the painting of signs.

The two interpretations as finally approved by the interpretating committee of the board of directors are as follows:

"Resolved: That, effective immediately, the words 'bona fide lease' in Rule 2 of the Code of Marketing Practices be interpreted to mean only formal written leases of not less than one year's duration—stating the actual consideration to be paid as rental by the lessee, containing no privilege of cancellation on the part of the lessor in less than one year, and bearing the written consent of the fee owner of the property; to be filed for record by the lessee within 30 days after execution.

"Resolved: That, effective immediately, that part of the Rule 10 of the National Code of Practices for Marketing Refined Petroleum Products, and the interpretations thereof, relating to the restriction of painting for dealers be entirely suspended in the states comprising the Pacific Coast region, and in such parts of the states of Montana, Idaho and Utah as the respective state code committees in each of said three states shall specifically designate by formal resolution."

APPOINT HENRY G. PLANE JOHNSON SALES MANAGER

Henry G. Plane, who has been appointed manager of refinery sales for the Johnson Oil Refining Co., has been connected with the company for the past 13 years. He started with the company when its general offices were located in Chicago Heights. He has served the company in various capacities and previous to the latest appointment

H. G. Plane

was assistant manager of refinery sales. He will have his offices at the Chicago headquarters of the company.

Mr. Plane has been active in developing the Johnson Authorized Distributors Plan. Under this plan jobbers sell Johnson products under an exclusive contract agreement.

TIO-PENN COMPANY TAKES OVER NORTH PENN PLANT

The Tio-Penn Refining Co. has been organized at Bradford, Pa., to operate the refinery at Tiona, Pa., formerly owned by the North Penn Refining Co. The refinery has been shut down for some time.

Officers of the new company are well known in Pennsylvania oil and business circles. Stearns Marshall, an oil producer of Bradford, has been elected president. C. H. Messerly, secretary, is also secretary and treasurer of the J. L. Yerdon Co., crude oil purchasing agents for the United Refining Co. of Warren, Pa. Mr. Messerly is a city councilman of Bradford. J. L. Yerdon of Bradford is treasurer of the new company. C. H. Law of Ridgway is vice president and Dr. J. H. Pumphrey of Dayton, Ohio, is a director. Offices of the company are located at 66 Main Street, Bradford.

Under the direction of F. M. Mack, superintendent, extensive repairs and additions are being made at the refinery. The company will manufacture lubricants and other products from Pennsylvania crude oil.

SPARTAN OPENS OFFICES

CHICAGO, Dec. 14.—The Spartan Petroleum Co. is now located in its permanent offices at Suite 636, Straus Building, 310 South Michigan Avenue, Chicago. The management is busy on surveys of proposed station sites or stations which may be acquired.

SHELL COMPANY ACQUIRES STATIONS IN WASHINGTON

By Charles E. Kern

WASHINGTON, D. C., Dec. 13.—The Shell Eastern Petroleum Products, Inc., has acquired from the Penn Oil Co. 65 service stations and storage and terminal facilities in the District of Columbia. This announcement was made today by the Penn Oil Co.

In ten years Paul Himmelfarb, president of the local Penn Oil organization, built the business of the Penn Company to its present position. It is stated that the Shell Eastern Petroleum Products Co., Inc., will supplant the policies and service of the Penn Oil Co. with its organization's added resources and facilities.

Referring to the local move, President A. F. Carter of the Shell company, said:

"Our coming into the Washington district marks the continuation of the company's definite expansion program and is made in our belief that American industry and business conditions have never been more fundamentally sound. We believe the present a particularly apt time for business to reaffirm its faith in fundamentals by construction rather than curtailment, and we are evidencing our faith in the general business outlook by this expansion."

T. R. Kurtz will be branch manager for local operations of Shell Eastern Petroleum Products, Inc.

NEW TURNER VALLEY LINE

CALGARY, Alberta, Dec. 14.—The Regal refinery is now connected with the Turner Valley field by a pipe line, according to the announcement of F. J. Huff, general manager of the Regal Oil & Refining Co. Oil from the Okalta, Vulcan, New McDougall Segur, Spooner, and McLeod wells is coming through the 28-mile main.

The pipe was laid by the Alberta Pipe Line Company, Ltd., at a cost of approximately $200,000. Prior to the completion of this direct transportation between the wells and the refinery the oil for the Regal refinery was brought by truck to Okotoks and by rail from Okotoks to Calgary.

In the completion of the Regal pipe line the two refineries in Calgary are now connected with the rapidly developing Turner Valley oil field, previous deliveries by pipe line having been to the Imperial Oil Co.'s refinery.

BOUGHT BY SWAN FINCH

CHICAGO, Dec. 17.—N. V. Joyce, vice president of the Swan Finch Oil Corp., now at the Chicago office, states that the control of the American Oil & Grease Corp. of Jackson, Mich., has been purchased by Swan Finch Oil Corp. of New York. The new general offices will be located at Chicago with sales office at Detroit in the Book Building. A. J. Callaghan and his sales organization are continuing with the company, Mr. Callaghan to be vice president and general sales manager with headquarters at Detroit. The rebuilding of the plant at Jackson, Mich., has been indefinitely deferred.

VACUUM BUYS EQUIPMENT

NEW YORK, Dec. 16. — Foster-Wheeler Corp. has closed contracts with the Vacuum Oil Co. for the installation of modern oil refining equipment at Vacuum refineries in Budapest, Hungary; Hamburg, Germany; Kolin, Czechoslovakia, and Czechowice, Poland. The contracts involve design, construction and erection of modern refineries at these points.

PERFECT NEW METHOD OF MEASURING EVAPORATION

WASHINGTON, D. C., Dec. 14.—The Bureau of Standards has completed an investigation relative to the easiness with which gasoline vaporizes in storage. As the result of the investigation the Department of Commerce has announced an easy method to determine the vaporizing tendencies of gasoline at atmospheric temperature.

The method as described by the Government is as follows:

"At every stage in the production, storage, transportation and use of a gasoline it is necessary to know how readily it will vaporize. Millions of gallons of gasoline, fresh from the stills, are stored in large tanks having small openings to the air. The gasoline vaporizes, some more than others, and thousands of dollars worth of good motor fuel is lost.

"The tank cars used for shipping on the railroads must conform to certain regulations based on the ease with which the gasolines vaporize. If the gasoline used by the motorist in winter does not vaporize enough he will have difficulty in starting his engine. If his gasoline vaporizes too readily, he will be annoyed, especially in summer, by frequent engine stoppage.

"The bureau made experiments on a large number of fuels to determine the temperatures at which a small bubble was formed in the gasolines. These temperatures are called bubble points and indicate the ease with which the gasolines vaporize. It was discovered that the bubble point temperature at atmospheric pressure is identical with the temperature at which 10 per cent of a gasoline is evaporated in a simple distillation test used by all oil refiners. A low 10 per cent point indicates large losses on storage but easy engine starting in winter. Under summer operating conditions it indicates the tendency to boil in the carburetor. So using the 10 per cent point as a criterion, the refiner can produce gasolines for easy starting in any climate and gasolines which will not boil at any summer temperature."

BURFORD OFFICES TO TULSA

The Burford Oil Co. has leased offices on the third floor of the Tulsa Trust Bldg. where its general sales offices will be located after January 1. As previously announced, E. F. Griswold, sales manager of the company, will have his headquarters at the Tulsa offices.

F. W. Burford, president of the Burford company, expects to have his personal offices at Tulsa after February 1. Mr. Burford was a resident of Tulsa for several years while he was connected with the sales department of the Skelly Oil Co. He will continue his office at Pecos, where the company's refinery is located, and the general traffic and accounting office will continue at that point.

The general sales office is being established at Tulsa in order to have closer contact with many of the company's customers located in the northern states. The company has a branch office at Minneapolis with special sales representatives in Illinois, Wisconsin, Iowa and Nebraska.

TAXMAN OPERATING REFINERY

The Taxman Refining Co. is operating its refinery at Wichita Falls, Tex., near capacity. The plant, which formerly belonged to the Miller Petroleum Co., was rebuilt and a new pipe still installed. The present crude runs to stills are approximately 2,500 bbls daily. Part of the gasoline is being sold through export channels.

EASTERN REFINED MARKET HOLDS UP

(Continued from Page 137)

68 cents per barrel, less tax. Following this transaction, Germany was reported to have contracted for a large tonnage for 1930 shipment at 70 cents per barrel. A local broker is now working on 50,000 tons which he has firm at 78 cents and expects to close at that figure. Panuco crude averages 6½ bbls. to the ton.

A large American company is reported to have contracted for 500,000 bbls. of Panuco crude for delivery over 1930 on the basis of 71 cents per barrel, f.o.b. Mexican terminal, less tax.

Fuel oil is quiet at the Gulf, with several cargos reported available at 70 cents per barrel.

Increasing export interest is being shown in kerosene for export, but cargo business is lacking. There is, however, a good volume in smaller quantities passing, with most of this being booked for shipment from East Coast terminals. Cased kerosene is also selling well, with South America, South Africa, and the Far East in the market in a fair way.

Among the minor products, lubricating oils have come in for slightly better buying this week, at the reduced schedule now in effect. Paraffin wax is still moving rather sluggishly into export channels, with gas and fuel oils also rather dull at the moment.

Petroleum Exports

The following table shows principal exports of refined petroleum products from New York for the past three weeks (all figures in gallons unless otherwise noted):

	Week Ended		
	Dec. 7	Nov. 30	Nov. 23
Gasoline	310,000	264,000	156,000
Naphtha	278,800	160,000	580,200
Kerosene	674,000	29,200	158,300
Fuel oil	.....	186,000	1,518,500
Lubricating oil	2,473,600	2,560,000	1,563,900
Petroleum refined	2,806,400	105,000	675,800
	Pounds		
Petrolatum	132,000	8,200	27,000
Paraffin wax	831,380	2,185,000	801,400
Refined	400,000	13,000	412,000
Scale	507,200	380,000	62,300
Lubricating grease	390,000	897,200	835,200

There were several large shipments of refined petroleum from New York during the week ended December 7, including 1,000,000 gallons on the Myrtlebank, half for Manila and the balance for Tahoa or Hongkong. The Muncaster Castle carried 900,000 gallons of refined petroleum for Fusan.

The Winnebago cleared for Manchester with 470,000 gallons of cylinder stocks, the same ship also carrying about 600,000 gallons of kerosene for British ports. The Wninebago is owned by Anglo-American Oil Co., Ltd.

Operators are looking for a good movement of gasoline and kerosene into export channels from East Coast terminals during the closing half of December, considerable inquiry having recently developed.

Imports

Imports of crude and refined petroleum at the principal United States ports for the week ended December 7 totaled 1,943,000 bbls., a daily average of 277,571 bbls., compared with 1,417,000 bbls., a daily average of 202,429 bbls. for the previous week. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast Ports—	
Baltimore	72,000
Boston	67,000
New York	1,114,000
Philadelphia	370,000
Others	117,000
Total	1,740,000
Daily average	248,571
At Gulf Coast Ports—	
New Orleans & Baton Rouge	203,000
Total	203,000
Daily average	29,000
At all United States Ports—	
Total	1,943,000
Daily average	277,571

While weekly statistics are lacking, it is known that gasoline is making up an increasing proportion of imports, particularly at East Coast ports, motor fuel arriving in steadily growing quantities from the Dutch West Indies.

California Oil Receipts

Receipts of California crude and refined oils at Atlantic and Gulf Coast Ports for the week ended December 7 totaled 885,000 bbls., a daily average of 126,429 bbls., against 509,000 bbls., a daily average of 72,714 bbls. for the previous week. Details follow:

	Bbls. of 42 gals.
At Atlantic Coast Ports—	
Baltimore	78,000
New York	533,000
Philadelphia	194,000
Others	80,000
Total	885,000
Daily average	126,429

Distribution of total California oil receipts is as follows:

Gasoline	685,000
Kerosene	50,000
Gas oil	80,000
Fuel oil	70,000

Shipments of California refined products for the East Coast during the week ended December 7, with ownership of tanker moving the oil, follow:

To New York: 80,500 bbls. of gasoline on the David McKelvy (Tide Water Oil Co.), 130,000 bbls. of gasoline on the Tamiahua (Richfield Oil Co. of California), 97,200 bbls. of gasoline on the Java Arrow (Standard Transportation Co.-Standard Oil Co. of New York), 76,500 bbls. of gas oil on the Betterton (Associated Oil Co. of California), and 94,300 bbls. of distillate on the Sylvan Arrow (Standard Transportation Co.-Standard Oil Co. of New York).

To Philadelphia: 115,000 bbls. of gasoline on the Chester Sun (Sun Oil Co.).

FOG DEPRESSES MARKET IN THE CHICAGO AREA

(Continued from Page 136)

integrated companies with local plants, from which they can draw supplies, are still holding their old prices and declining to make any advances at this time. Of course they have the advantage of securing their product at a fixed cost. But some of the larger distributors have contracts which call for large quantities of oil, one in particular having several contracts, one of which calls for 660 cars over the season at the market price with a maximum of 70 cents Group 3, but the delivery is from the Calumet district. This concern has been taking its oil out rapidly and probably has considerable oil in storage on which it can reap a substantial advance.

Some larger jobbers in and around Chicago are considering filling some of their gasoline storage this month. One inquiry for a considerable number of cars was made on which the buyer has claimed he received a quotation of less than 6 cents, Group 3, from a responsible refiner. While occasional inquiries of this kind may be received, few jobbers will be in the market for more than their immediate needs before the end of the year. The Benzoline Motor Fuel Co. has had an inquiry out for 100 cars of U. S. Motor gasoline for delivery within one week. So far as can be learned, the order has not been placed.

GULF EMPLOYES HONOR J. W. TRYON AT BANQUET

HOUSTON, Tex., Dec. 16.—After 25 years continuous service with the company, John W. Tryon, general manager of the Gulf Refining Co., Port Arthur, on December 14, locked his desk for the last time and Sunday left for Pennsylvania where he will make his home on his country place near Philadelphia. Before settling in retirement, however, he will make a tour of the world. Mr. Tryon's resignation to take effect December 15 was announced during October.

Mr. Tryon's last week at Port Arthur was marked by a number of farewell banquets in his honor for his long association with the company, during which he saw the Port Arthur refinery grow from a small plant to the largest refining institution in the world. Among the features of the week were a banquet given by the employes of the company who have been associated with him for many years and one by the Gulf Club, which he helped to organize when the refinery first was started. As a token of the employes' good will, Mr. Tryon was presented with a 50-piece Sterling silver service.

CAPACITY OF OKLAHOMA CITY POOL INCREASES

(Continued from Page 139)

supply be guaranteed, it will likely build a plant having a capacity near 50,000 gallons daily.

The Wirt Franklin Petroleum Corp., which holds considerable acreage in the present field, will begin the construction of a 15,000-gallon plant immediately and will add to its capacity as the leases are developed. The Skelly Oil Co. also intends to enter the field in the near future and will build a plant of approximately 20,000 gallons capacity. The rate of development of that company's leases will, likewise, influence the expansion of the plant.

Although the Amerada Petroleum Corp., the Prairie Oil & Gas Co. and the Mid-Kansas Oil & Gas Co. hold leases in the field, none of them has formulated plans for the erection of natural gasoline plants.

Low Gasoline Content

Unlike the Seminole Field of Oklahoma, the Oklahoma City Field is producing gas which contains but a small amount of gasoline. The average gas in the field at present produces slightly less than one gallon per thousand feet, whereas the Seminole gas is producing from three to eight gallons per thousand feet. For a given volume of gasoline extracted in the Oklahoma City plants, the volume of the residue gas is high and at present there is little or no market for the residue gas, which is an added burden on the gasoline manufacturer. Partially overbalancing these factors, however, is the fact that manufacturing costs are lowered by the elimination of compressors. There is sufficient well pressure to carry on the processing of the gas through the plant and the only compressors in use are those which return the gas to the wells for repressuring.

PREPARING FOR AVIATION SHOW

The International Aircraft Exposition sponsored by the Aeronautical Chamber of Commerce of America, Inc., will bring latest products of the world's aeronautical engineering skill to St. Louis, Mo., February 15 to 23, for a nine-day exhibition. Plans for the aircraft industry's biggest show of the year are under the direction of Clifford W. Henderson, manager of the Aeronautical Chamber of Commerce show section. The St. Louis Arena provides space for 250 exhibits of aircraft, engines and accessories.

V. O. C. PRODUCTION

NEW YORK, Dec. 16.—Venezuelan Oil Concessions, Ltd., produced in Venezuela during the week ended December 7, a total of 117,549 metric tons of crude petroleum, an average of 16,793 metric tons per day.

OPERATE LARGEST POWER PLANT AT SCHAFER RANCH

What is believed to be the largest power plant ever built for gasoline plant work is now in operation at the Schafer ranch properties of the Skelly Oil Co. The plant furnishes power for a group of gasoline plants and also the Cabot Co. carbon black plants, which take the residue gas from the Skelly properties.

The power plant originally consisted of three 200 horsepower gas engines direct connected to several electric generators. As more power was required additional units were added and the plant now consists of four 200-horsepower and three 250-horsepower engines. The bulk of this 1,550 horsepower is used for propelling water pumps and oil circulating pumps. Power is carried as much as seven miles to outlying plants, derricks and carbon black plants.

The Schafer ranch natural gasoline plant's operations of the Skelly company have been gradually expanded from one small plant to two large plants with smaller plants, so that they now have a total capacity of 65,000,000 feet of gas daily. The gas has a very low gasoline content, but the present output of the plants is around 45,000 gallons daily.

Emby Kaye, manager of the natural gasoline department of the Skelly Oil Co., writing in the Skelly News regarding the use of electricity in gasoline plant operation, says:

"Electricity has certain advantages over steam or 'line-shaft' power. Although continuity, uniform speed and reliability are determining features of auxiliary power, we turned to electricity for the further reason of its greater safety and operating simplicity. The over-all cost is low, running approximately 65 mills per kilowatt hour.

"Since water for cooling purposes is of paramount importance in a gasoline plant, and good water a rare experience in this Southwestern country, we should point out that we have in the Schafer plant yard a water well capable of producing 18,000 bbls. daily. This well is produced by a rotary type pump set at the bottom of a 30-inch hole at about 450 feet from the surface, and operated by a shaft from a 125-horsepower vertical type motor at the top of the well. The quality of the water is good but it is nevertheless treated to remove what hardness exists to make operations continuous, and to diminish shutdowns due to the formation of scale."

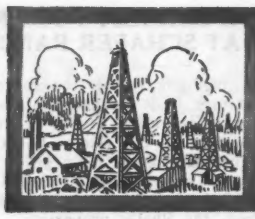
TEST BUTTONWILLOW LINE

The Pacific Gas & Electric Co. has completed a series of tests of the natural gas pipe line recently constructed from Kettleman Hills to Buttonwillow, where eight gassers of the Milham Exploration Co. have been tapped. High pressure has been applied to 50 miles of line between the two points. It has been given a thorough test preparatory to turning into it a capacity supply of gas to be sent into the bay district for domestic use.

The Pacific Gas & Electric Co. announces a plan for the extension of local gas mains to supply 20 consumers in Oakdale, Calif. The company has started its program, which includes the extension of 5,061 feet of 3½ and 4-inch mains.

SUMMARY OF STATEMENTS MADE DECEMBER 10, 1929, RELATING TO BUSINESS OF VARIOUS PIPE LINES FOR MONTH ENDING NOVEMBER 30, 1929

	Gross stocks	Runs from wells	Other receipts	Regular deliveries	Other deliveries
Nat. Transit	725,641.66	426,302.38	629,123.57	610,366.22	424,863.89
S. W. Pa. P. L.	526,381.77	82,952.71	804,710.81	355,147.92	515,772.36
Eureka P. L.	1,397,286.60	357,808.48	353,245.50	241,823.95	452,806.27
Buckeye P. L. (Macksburg)	413,588.69	334,853.69	43,088.53	200,936.77	160,206.84
Buckeye P. L. (Lima, etc.)	3,181,309.11	94,141.89	2,716,859.66	1,293,017.06	1,099,384.45
Buckeye P. L. (Cleveland, etc.)	74,272.48	10,941.76	77,588.95	1,694.86	60,910.98
Indiana P. L.	716,629.97	5,047.91	2,994,127.01	1,380,193.50	1,645,248.31
Cumberland P. L.	552,617.51	176,386.64	2,734.27	185,762.53	.....
Southern P. L.	308,180.02	.....	91,164.79	63,391.87	57,861.27
N. Y. Transit	141,455.63	31,674.21	242,613.47	265,488.60	12,375.95
Northern P. L.	340,327.62	.....	499,831.66	173,230.28	311,859.14
Tuscarora Oil	267,510.68	.....	.....	.....	330,671.32
Total Nov. 30	8,645,201.74	1,520,109.67	8,455,088.22	4,771,553.36	5,072,650.39
Total Oct. 31	8,234,787.78	1,635,358.00	8,649,666.60	5,169,494.05	5,530,824.39
Difference	410,413.96	115,248.33	194,578.38	397,940.69	458,173.82



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINE AND NAPHTHA

OKLAHOMA (Group 3)—	Dec. 17		Dec. 10		Dec. 3	
50-52 450 endpoint	.06¾	.07	.06¾	.07	.06¾	.07
56-58 450 endpoint	.06½	.06¾	.06½	.06¾	.06⅝	.06¾
*58-60 437 endpoint (U. S. Motor)	.0725		.0725		.0722	
*60-62 437 endpoint	.0763		†.0725		.0725	
*60-62 400 endpoint	.0750		.075		.0753	
*64-66 375 endpoint	.08		.0779		.08	
68-70 360 endpoint	.08⅛	.08¼	.08⅛	.08¼	.08⅛	.08¼
64-66 437 endpoint (blend)	.07	.07¼	.07	.07¼	.07	.07¼

*Weighted average prices December 16, 9 and 2 as reported by representative refiners. Sales to jobbers only. †No sales reported.

NORTH TEXAS—						
56-58 450 endpoint	.06½	.06¾	.06½	.06¾	.06⅝	.07
58-60 460 endpoint	.06½	.06¾	.06½	.06¾	.06⅝	.07
58-60 437 endpoint (U. S. Motor)	.06½	.07	.06½	.07	.06¾	.07
60-62 400 endpoint	.07¼	.07⅜	.07¼	.07⅜	.07¼	.07⅜
64-66 390 endpoint	.07½	.07⅝	.07½	.07¾	.07⅝	.07¾
64-66 375 endpoint	.07¾	.08	.07¾	.08	.07¾	.08
68-70 360 endpoint	.08⅛	.08¼	.08⅛	.08¼	.08	.08¼
64-66 437 endpoint (blend)	.07	.07¼	.07⅛	.07¼	.07⅛	.07¼
*NORTH LOUISIANA—						
58-60 437 endpoint (U. S. Motor)	.07¼	.07⅜	.07¼		.07¼	.07½
*ARKANSAS—						
58-60 437 endpoint (U. S. Motor)	.07	.07¼	.07	.07¼	.07¼	
PENNSYLVANIA—						
52-54 Naphtha	.07¼	.07½	.07¼	.07½	.07¼	.07½
54-56 Naphtha	.07¼	.07½	.07¼	.07½	.07¼	.07½
58-60 Gasoline	.08	.08¼	.08	.08¼	.08	.08¼
60 Gasoline	.08	.08½	.08	.08½	.08	.08½
62 Gasoline	.08½	.08¾	.08½	.08¾	.08½	.08¾
64 Gasoline	.09	.09¼	.09	.09¼	.09	.09¼
68-70 350 endpoint gasoline	.10¼	.10½	.10¼	.10½	.10¼	.10½
CALIFORNIA—						
58-60 437 endpoint (U. S. Motor) domestic.	.09	.10	.09	.10	.09	.10
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.06½	.06¾	.06¾	.07	.06¾	.07
56-58 450 endpoint	.06⅝	.06⅝	.06⅝	.06⅞	.06⅝	.06⅞
58-60 437 endpoint (U. S. Motor)	.06¾	.07	.06⅝	.07¼	.06⅝	.07¼
60-62 400 endpoint	.07⅛	.07⅜	.07¼	.07½	.07¼	.07½
64-66 375 endpoint	.07¾	.08	.07⅝	.07⅞	.07⅝	.07¾
68-70 360 endpoint	.08¼	.08⅜	.08¼		.08	.08¼
64-66 437 endpoint (blend)	.07	.07¼	.07¼		.07¼	
GULF COAST (Export)—						
58-60 (U. S. Motor)	.08½		.08½		.08½	
60-62 400 endpoint	.09½		.09½		.09½	
61-63 390 endpoint	.09¾		.09¾		.09¾	
64-66 375 endpoint	.10		.10		.10	

*Louisiana, Arkansas Mississippi and East Texas delivery.

NATURAL GASOLINE

OKLAHOMA (Group 3)—	Dec. 17		Dec. 10		Dec. 3	
Grade A, 72-79.9, 375 e.p., rec. 90%	.06⅝		.06¾		.06⅞	.07
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06¼	.06⅜	.06⅜	.06½	.06¾	
Grade B, 76-83.9, 375 e.p., rec. 85%	.05¾		.06		.06¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.05¾		.06		.06¼	
Grade C, 80-90, 375 e.p., rec. 78%	.05¾		.05¾	.06	.06⅛	
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06⅝	.06¾	.06¾		.06⅞	.07
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06¼	.06⅜	.06⅜	.06½	.06¾	
Grade B, 76-83.9, 375 e.p., rec. 85%	.05¾		.06		.06¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.05¾		.06		.06¼	
Grade C, 80-90, 375 e.p., rec. 78%	.05¾		.05¾	.06	.06⅛	
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.06¾	.07	.07	.07¼	.07¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.06¼	.06½	.06½	.06¾	.07	
Grade C, 80-90, 375 e.p., rec. 78%	.06	.06¼	.06¼	.06½	.06¾	
CALIFORNIA—						
75-78 375 390 endpoint	.08	.08½	.07¾	.08¼	.07¾	.08¼
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06⅝	.06¾	.06¾		.06¾	.07
Grade AA, 80-87, 375 e.p., rec. 90%	.06¾		.06½		.06¾	
Grade B, 76-83.9, 375 e.p., rec. 85%	.05¾		.06		.06¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.05¾		.06		.06¼	
Grade C, 80-90, 375 e.p., rec. 78%	.05¾		.05¾	.06	.06⅛	

BURNING OIL

OKLAHOMA (Group 3)—	Dec. 17		Dec. 10		Dec. 3	
41-43 water white kerosene	.04⅛	.04¾	.04¼	.04¾	.04¼	.04¾
42-44 water white kerosene	.04½	.05	.04½	.04¾	.04½	.05
NORTH TEXAS—						
41-43 water white kerosene	.04⅛	.04¼	.04⅛	.04¼	.04⅛	.04¼
40-42 water white kerosene	.04	.04¼	.04	.04¼	.04	.04¼
*NORTH LOUISIANA—						
41-43 water white kerosene	.05		.05		.05	
*ARKANSAS—						
41-43 water white kerosene	.05		.05		.05	
PENNSYLVANIA—						
43 Kerosene prime white	.06¼	.06⅜	.06¼	.06⅜	.06¼	.06⅜
45 Kerosene water white	.06⅜	.06½	.06¼	.06⅜	.06¼	.06½
46 Kerosene water white	.06⅝	.06⅞	.06⅝	.06⅞	.06⅝	.06⅞
47 Kerosene water white	.06¾	.07	.06¾	.07	.06¾	.07
300 Mineral Seal	.07	.07¼	.07	.07¼	.07	.07¼
CALIFORNIA—						
38-40 water white Kero. (high burning test)	.05	.05½	.05	.05½	.05	.05½
Engine distillate, 43-44, 445 endpoint	.07	.07½	.07	.07½	.07	.07½
Engine distillate, 42-44, 480 endpoint	.06¾	.07¼	.06¾	.07¼	.06¾	.07¼
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white kerosene	.04½	.04½	.04¼	.04½	.04¼	.04½
42-44 water white kerosene	.04¾	.05	.04⅝	.05	.04¾	.05
GULF COAST (Export)—						
41-43 prime white	.07		.07		.07	
41-43 water white	.08		.08		.08	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

FUEL OIL

OKLAHOMA (Group 3)—	Dec. 17		Dec. 10		Dec. 3	
Below 18 Fuel Oil, per bbl.	.70	.75	.70	.75	.65	.70
18-22 Fuel Oil, per bbl.	.75	.80	.75	.80	.67½	.72½
20-22 Fuel Oil, per bbl.	.80	.85	.80	.85	.70	.75
22-26 Fuel Oil, per bbl.	.85	.90	.85	.90	.75	.85
24-26 Fuel Oil, per bbl.	.90	1.00	.95	1.00	.85	.95
26-30 Fuel Oil, per bbl.	1.00	1.05	1.00	1.05	.90	1.00
28-30 Fuel Oil, per bbl. (industrial)	1.15	1.25	1.15	1.25	1.15	1.20
32-36 Gas Oil (industrial)	.02⅞	.03	.02⅞	.03	.02¾	.02⅞
32-36 Gas Oil (straw color)	.03⅛	.03¼	.03⅛	.03¼	.03	.03⅛
36-38 Distillate	.03⅝	.03⅞	.03⅝	.03⅞	.03⅝	.03⅞
38-40 Straw Distillate	.03¾	.04¼	.03⅞	.04¼	.03⅞	.04
NORTH TEXAS—						
Below 20 Fuel Oil, per bbl.	.60	.65	.60	.65	.60	.65
24-26 Fuel Oil, per bbl.	.85	.95	.85	.95	.85	.90
32-36 Gas Oil (straw)	.02⅞	.03	.02⅞	.03	.02¾	.03
38-40 Straw Distillate	.03¾	.04	.03¾	.04	.03¾	.04
*NORTH LOUISIANA—						
18-20 Fuel Oil, per bbl.	.80	.85	.80	.85	.80	.90
30-32 Gas Oil	.03¼	.03½	.03¼	.03½	.03¼	.03½
*ARKANSAS—						
33-36 Distillate	.03⅝	.04	.03⅝	.04	.03⅝	.04
30-32 Gas Oil	.03¼	.03½	.03¼	.03½	.03¼	.03½
16-22 Refinery Fuel Oil, per bbl.	.80	.85	.80	.85	.80	.90
GULF COAST (South Texas)—						
Gas Oil	.04	.04¼	.04	.04¼	.04	.04¼
Bunker C Fuel (cargo lots), per bbl.	.65	.70	.75		.75	
Bunker C Fuel (small lots)	1.00	1.05	1.00	1.05	1.00	1.05
PENNSYLVANIA—						
30-34 Fuel Oil	.04½	.04¾	.04⅝	.04⅞	.04⅝	.04⅞
36-40 Fuel Oil	.04⅝	.04¾	.04¾	.05	.04¾	.05
CALIFORNIA—						
33-36 Distillate	.03½	.04	.03½	.04	.03½	.04
26-32 Distillate	.02	.02½	.02	.02½	.02	.02½
15-20 Fuel Oil, Bunker (at tide water)	.70	.80	.65	.85	.65	.85
15-20 Fuel Oil (cargo lots, per bbl.	.60	.75	.70	.85	.70	.85
27 plus Diesel, per bbl.	.90	1.05	.90	1.05	.90	1.05
CHICAGO DISTRICT (Based on Group 3)—						
22-26 Fuel Oil, per bbl.	.82½	.87½	.80	.85	.77½	.82½
18-22 Fuel Oil, per bbl.	.75	.80	.70	.75	.67½	.72½
28-30 Fuel Oil, per bbl.	1.17½	1.25	1.15	1.20	1.15	1.20
32-36 Gas Oil (zero)	.03⅛	.03⅜	.03⅛	.03⅜	.03⅛	.03⅜
32-36 Gas Oil (industrial	.02¾	.02⅞	.02¾	.03	.03	.03⅛
36-38 Distillate	.03½	.03¾	.03⅝	.03¾	.03⅝	.03¾
38-40 Straw Distillate	.03¾	.04	.03¾	.04	.03¾	.04

*Louisiana, Arkansas, Mississippi and East Texas delivery.

LUBRICATING OIL AND WAX

OKLAHOMA (Group 3)—	Dec. 17		Dec. 10		Dec. 3	
100 vis., 2 color, 20-25 cold test	.06¾	.07	.06¾	.07	.06¾	.07
100 vis., 3 color, 20-25 cold test	.05¾	.06	.05¾	.06	.05¾	.06
150 vis., 3 color, 20-25 cold test	.08¼	.08½	.08¼	.08½	.08¼	.08½
150 vis., 4 color, 20-25 cold test	.07¾	.08	.07¾	.08	.07¾	.08
180 vis., 3 color, 23-28 cold test	.09¾	.10	.09¾	.10	.09¾	.10
180 vis., 4 color, 23-28 cold test	.09¼	.09½	.09¼	.09½	.09¼	.09½
180 vis., 5 color, 23-28 cold test	.09	.09¼	.09	.09¼	.09	.09¼
200 vis., 3 color, 23-28 cold test	.10¾	.11	.10¾	.11	.10¾	.11
200 vis., 4 color, 23-28 cold test	.10¼	.10½	.10¼	.10½	.10¼	.10½
200 vis., 5 color, 23-28 cold test	.09¾	.10	.09¾	.10	.09¾	.10
240 vis., 3 color, 25-30 cold test	.14¼	.14½	.14¼	.14½	.14¼	.14½
240 vis., 4 color, 25-30 cold test	.13¼	.13½	.13¼	.13½	.13¼	.13½
240 vis., 5 color, 25-30 cold test	.12¾	.13	.12¾	.13	.12¾	.13
280 vis., 3 color, 25-30 cold test	.16¾	.17	.16¾	.17	.16¾	.17
280 vis., 4 color, 25-30 cold test	.15¾	.16	.15¾	.16	.15¾	.16
280 vis., 5 color, 25-30 cold test	.14¾	.15	.14¾	.15	.14¾	.15
Cylinder Stocks:						
600, steam refined, light green	.10	.12	.10	.12	.10	.12
600, steam refined, dark green	.09	.11	.09	.11	.09	.11
190-200 vis., D color Bright Stock	.41	.42	.41	.42	.41	.42
150-160 vis., D color Bright Stock	.37		.37		.37	
150-160 vis., E color Bright Stock	.32	.35	.32	.35	.32	.35
Waxes:						
124-126 White Crude Scale Wax	.03	.03⅛	.03	.03⅛	.03	.03⅛
PENNSYLVANIA—						
34 Neutral	.07½	.07¾	.07½	.07¾	.07½	.07¾
34 Sundebloom	.07½	.07¾	.07½	.07¾	.07½	.07¾
36 Miners' Neutral	.07¼	.07½	.07¼	.07½	.07¼	.07½
150, 3 color	.15½	.16	.15½	.16	.15½	.16
180, 3 color	.21½	.22	.21½	.22	.21½	.22
200, 3 color	.23½	.24	.23½	.24	.23½	.24
220, 3 color	.28½	.29	.28½	.29	.28½	.29
600, steam refined	.25½	.26	.26	.26½	.26	.26½
635, steam refined	.30	.30½	.30	.30½	.30	.30½
650, steam refined	.30½	.31	.31	.31½	.31	.31½
600, Pennsylvania Flash	.31½	.32	.32	.32½	.32	.32½
630, Pennsylvania Flash	.34½	.35	.35	.36	.35	.36
600, E filtered	.32	.32½	.32½	.33	.32½	.33
600, D filtered	.35½	.36	.36½	.37	.36½	.37
Pennsylvania Bright Stock	.45	.46	.45	.46	.45	.46
*122-124 White Crude Scale Wax	.03	.03⅛	.03	.03⅛	.03	.03⅛
*124-126 White Crude Scale Wax	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03¼

*At New York.

GULF COAST (South Texas)—						
No. 2 color, 100 vis., pale oil	.06	.06½	.06	.06½	.06	.06½
No. 3 color, 200 vis., pale oil	.08½	.09	.08½	.09	.08½	.09
No. 3 color, 300 vis., pale oil	.09¾	.10	.09¾	.10	.09¾	.10
No. 3½ color, 500 vis., pale oil	.11	.11½	.11	.11½	.11	.11½
No. 4 color, 750 vis., pale oil	.12	.13	.12	.13	.12	.13
No. 5 to 6 color, 200 vis., red oil	.07	.08	.07	.08	.07	.08
No. 5 to 6 color, 300 vis., red oil	.08½	.09	.08½	.09	.08½	.09
No. 5 to 6 color, 500 vis., red oil	.09	.10	.09	.10	.09	.10
No. 5 to 6 color, 750 vis., red oil	.11½	.12½	.11½	.12½	.11½	.12½
No. 2½ color, 200 vis., pale filtered	.11	.12	.11	.12	.11	.12

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

No. 2½ color, 300 vis., pale filtered	.12	.13	.12	.13	.12	.13
No. 2½ color, 500 vis., pale filtered	.14½	.15	.14½	.15	.14½	.15
No. 2½-3 color, 750 vis., pale filtered	.17	.19	.17	.19	.17	.19
CALIFORNIA—						
130 vis., 2½-3 color	.10¼	.10½	.10¼	.10½	.10¼	.10½
200 vis., 2½-3 color	.11½	.11¾	.11½	.11¾	.11½	.11¾
300 vis., 3-3½ color	.13	.13½	.13	.13½	.13	.13½
350 vis., 3½-4 color	.13½	.13¾	.13½	.13¾	.13½	.13¾
400 vis., 3½-4 color	.15	.15½	.15	.15½	.15	.15½
Red Neutral:						
200 vis., 4½-5 color	.11	.11¼	.11	.11¼	.11	.11¼
300 vis., 5-6 color	.12	.12¼	.12	.12¼	.12	.12¼
400 vis., 5-6 color	.13¼	.14	.13¼	.14	.13¼	.14
500 vis., 4½-5 color	.14¼	.15½	.14¼	.15½	.14¼	.15½
500 vis., 5-6½ color	.15	.15¼	.15	.15¼	.15	.15¼
600 vis., 6½ plus color	.16	.16¼	.16	.16¼	.16	.16¼

Note—Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	Dec. 17		Dec. 10		Dec. 3	
Gasoline, U. S. Motor, 58-60, 437	.08¾	.09	.08¾	.09	.08¾	.09
Kerosene, water white, 41-43	.07¾		.07¾		.07¾	
*Fuel Oil, Bunker "C," 14-16, per bbl.	1.05		1.05		1.05	
†Fuel Oil, Diesel, 28-30, per bbl.	2.00		2.00		2.00	
Gas Oil, 32-36 gravity	.05¼		.05¼		.05¼	
25 pale Paraffin Oil	.10½		.10½		.10½	
28 pale Paraffin Oil	.07¼		.07¼		.07¼	
285 red Paraffin Oil	.12½		.12½		.12½	
250 red Paraffin Oil	.11½		.11½		.11½	
225 red Paraffin Oil	.10		.10		.10	
200 red Paraffin Oil	.09¼		.09¼		.09¼	
Refined Wax:						
120-122 a.m.p., per lb.	.038		.038		.038	
125-127 a.m.p., per lb.	.04½	.04¼	.04½	.04¼	.04½	.04¼
130-132 a.m.p., per lb.	.04½		.04½		.04½	
133-135 a.m.p., per lb.	.05⅝		.05⅝		.05⅝	
135-137 a.m.p., per lb	.06⅛		.06⅛		.06⅛	
Petrolatum in barrels, carload lots, per pound:						
Dark Green	.01⅞		.01⅞		.01⅞	
Amber	.03½		.03½		.03½	
Extra Amber	.03½		.03⅝		.03⅝	
Cream	.06⅜		.06⅜		.06⅜	
Lily White	.07¼		.07¾		.07⅜	
Snow White	.08⅜		.08⅜		.08⅜	

*Lighterage 5.0 cents a barrel extra. †Lighterage 6.5 cents a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	Dec. 17	Dec. 10	Dec. 3
Kerosene, prime white	.07¾	.07¾	.07¾
Kerosene, water white	.09	.09	.09
600, steam refined cylinder stocks, in bbls.	.32	.32½	.32½
635, steam refined	.34	.34½	.34½
650, steam refined	.38	.38½	.38½
600, Pennsylvania Flash	.41	.43	.43
630, Pennsylvania Flash	.45	.47	.47
600, Warren E	.40	.40	.40
600, Oil City E	.39	.39	.39
Light 140-150 Bright Stocks	.54 .56	.55 .56	.57 .58
Dark 140-150 Bright Stocks	.53 .54	.53 .54	.56 .57

LOS ANGELES EXPORT PRICES

	Dec. 17	Dec. 10	Dec. 3
Kerosene, water white	.04½ .05	.04½ .05	.04½ .05
U. S. Motor Gasoline, 53-55, 437 e.p.	.06¼ .06¾	.06¼ .06¾	.06¼ .06¾

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

Oklahoma City—Same as other Mid-Continent price schedule except Empire Pipe Line Co. posts all oil 40 gravity and above at $1.65 on November 24.

Corsicana heavy (January 11)* ..... $ .80

Other fields ..... See gravity table

*Posted by Magnolia Petroleum Co.

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties—See gravity table.

WEST TEXAS

Iatan* ..... Same as North Texas

Crane-Upton-Crockett, Pecos, Winkler and Mitchell ..... See gravity table, column 3

Howard and Glasscock ..... See gravity table, column 11

Chalk† ..... $ .65

*Includes Westbrook Field.
†Posted by Humble Oil & Refining Co.

ARKANSAS-NORTH LOUISIANA

Smackover, below 24 gravity (May 20, 1929) ..... $ .85

Smackover, 24 gravity and above (May 20, 1929) 1.00

Cotton Valley, below 36 gravity (May 22) ..... .85

Bellevue (May 29, 1929) 1.30

Urania (May 21, 1929) 1.01

East El Dorado (May 22, 1929) ..... .85

Other fields ..... See gravity table

Cotton Valley crude about 36 gravity takes same gravity price schedule as shown for North Louisiana and Arkansas crude in Mid-Continent gravity price table.

Note—Smackover, Cotton Valley and Bellevue posted by Standard Oil Co. of Louisiana and Magnolia Petroleum Co.; Urania posted by Louisiana Oil Refining Corp.; East El Dorado, Magnolia Petroleum Co.

GULF COAST

Grade A (May 20)* $1.30

Grade B ..... See gravity table

Jennings, La. (March 14)† 1.05

Saratoga, Batson, Dayton (March 14, 1927)‡ 1.20

Refugio¶ ..... .70

Markham (March 14)‖ 1.00

High Island (December 14)¶ 1.00

*Humble Oil & Refining Co., The Texas Company, Gulf Pipe Line Co., and Sun Pipe Line Co. †Gulf Pipe Line Co. ‡Sun Pipe Line Co. ‖The Texas Company. ¶Posted by Gulf Pipe Line Co.

ROCKY MOUNTAIN STATES
Ohio Oil Co.-Midwest Refining Co.
(Effective May 21, 1929)

Rock Creek, Wyo. $1.40

Salt Creek ..... See gravity table

Big Muddy $1.43

Grass Creek, heavy (July 27, 1928) ... .90

Grass Creek, light 1.65

Mule Creek 1.20

Elk Basin 1.65

Lance Creek 1.68

Poison Spider (March 14, 1927) 1.00

Notches (March 14, 1927) ..... .65

Rex Lake (February 22) 1.10

Osage 1.65

Lost Soldier (contract, May 22) 1.05

Hamilton Dome (March 14, 1927) ..... .85

Pedro 1.25

Greybull 1.65

Four Bear ..... .85

Cat Creek (Montana) (July 27, 1928) .. 1.42

Sunburst (Montana) (May 23, 1929) ... 1.75

Torchlight 1.65

Hogback (New Mexico) 1.70

Note—Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

(Continued on Page 144)

CRUDE OIL GRAVITY TABLE

Gravity—	1 Okla., Kans., N. C. Texas	2 No. La. and Arkansas	3 Crane, Upton, Crockett, Winkler, Pecos, Mitchell, Texas crudes, and Lea, N. Mex.	4 Stephens, Ark.	5 Wheeler (Texas Panhandle)	6 Gray County (Texas Panhandle)	7 Carson and Hutchinson (Texas Panhandle)	8 Salt Creek, Wyo.	9 Grade B and Light Crude (G. Coas.)	10 Somerset (South Central Texas)	11 Howard and Glasscock, W. Tex.
24 and above	....	....	....	....	....	....	....	....	....	....	....
Below 24	....	....	....	....	....	....	....	....	....	....	....
Below 25	.85	....	.70	....	....	....	....	....	1.15	....	.70
25 to 25.9	.90	....	.74	....	....	....	....	....	1.18	....	.74
26 to 26.9	.95	....	.78	....	....	....	....	....	1.21	....	.78
27 to 27.9	1.00	....	.82	....	....	....	....	....	1.24	....	.82
Below 28	....	1.00	....	.90	.90	.90	.90	....	....	....	....
28 to 28.9	1.05	1.05	.86	.94	.90	.90	.90	....	1.27	....	.84
29 to 29.9	1.10	1.10	.90	.98	.90	.95	.90	1.10	1.30	....	.86
30 to 30.9	1.15	1.15	.94	1.02	.95	1.00	.90	1.15	1.33	....	.88
31 to 31.9	1.20	1.20	.98	1.06	1.00	1.05	.90	1.20	1.36	....	.90
32 to 32.9	1.25	1.25	1.02	1.10	1.05	1.10	.95	1.25	1.39	1.05	.92
33 to 33.9	1.30	1.30	1.06	....	1.10	1.15	1.00	1.30	1.42	1.07	.94
34 to 34.9	1.35	1.35	1.10	....	1.15	1.20	1.05	1.35	1.45	1.09	.96
35 to 35.9	1.40	1.40	1.14	....	1.20	1.25	1.10	1.40	1.48	1.11	.98
36 to 36.9	1.45	1.45	1.18	....	1.25	1.30	1.15	1.45	....	1.13	1.00
37 to 37.9	1.50	1.50	....	....	1.30	1.35	1.20	1.50	....	1.15	....
38 to 38.9	1.55	1.55	....	....	1.35	1.40	1.25	....	....	1.17	....
39 to 39.9	1.60	1.60	....	....	1.40	1.45	1.30	....	....	....	....
40 to 40.9	1.65	1.65	....	....	1.45	1.50	1.35	....	....	....	....
41 to 41.9	1.70	1.70	....	....	1.50	1.55	1.40	....	....	....	....
42 to 42.9	1.75	1.75	....	....	1.55	1.60	1.45	....	....	....	....
43 to 43.9	1.80	1.80	....	....	1.60	1.65	1.50	....	....	....	....
44 and above	1.85	1.85	....	....	1.65	1.70	1.55	....	....	....	....

Column 1, Note—Magnolia Petroleum Co. posted schedule May 20, 1929, making price below 26 gravity 70 cents per barrel, 26-26.9 gravity 75 cents, 27-27.9 gravity 85 cents, 28-28.9 gravity 90 cents, 29-29.9 gravity 95 cents, 30-30.9 gravity $1.05, and 31-31.9 gravity $1.15, with balance of the price schedule as shown above. Top price of Empire Pipe Line Co., effective November 14 for Oklahoma City crude oil, is for 40° and above.

Oklahoma—Carter Oil Co., Prairie Oil & Gas Co., Sinclair Oil & Gas Co., Gypsy Oil Co., The Texas Company, May 20.

North Central Texas—Including Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Nocona and Moran, Prairie Oil & Gas Co., Sinclair Oil Refining Co., Humble Oil & Refining Co., The Texas Company and Gulf Refining Co., May 20.

Kansas—Prairie, Sinclair, The Texas Company and Carter, May 20.

Column 2—Arkansas and North Louisiana—(Caddo, Bull Bayou, Crichton, Cotton Valley above 36 gravity, DeSoto, Haynesville, Homer and El Dorado only) May 22, Standard Oil Co. of Louisiana, Louisiana Oil Refining Co., Gulf Refining Co., Magnolia Petroleum Co., schedule applies to Pine Island, Haynesville, Bull Bayou, Louisiana and El Dorado, Ark., light crude.

Column 3—Humble Oil & Refining Co. and Magnolia Petroleum Co., May 20.

Column 4—Atlantic Oil Producing Co., Prairie Oil & Gas Co., Louisiana Oil Refining Corp., May 21, 1929.

Columns 5, 6 and 7—Humble Oil & Refining Co., Magnolia Petroleum Co., May 20, 1929.

Column 8—Midwest Refining Co., May 20, 1929. All crude over 37 gravity $1.50 per barrel.

Column 9—Humble Oil & Refining Co., May 20, 1929 (schedule ends 35 and above).

Column 10—Grayburg Pipe Line Co. and Pioneer Oil & Refining Co., April 7.

Column 11—Humble Oil & Refining Co., November 26.

CALIFORNIA CRUDE OIL PRICES

Standard Oil Co.-Union Oil Co. (Effective October 21, 1929)

Gravity—	1 Salt Lake, Newport, Summerland, Lawndale, Los Angeles, Fullerton, Richfield, Torrance, Olinda-Brea, Alamitos Heights, Huntington Beach, Signal Hill (Nov. 8) Athens, Inglewood, Rosecrans-Dominguez, Watsonville	2 Whittier, La Habra, Coyote Hills	3 Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills	4 Montebello	5 Santa Fe Springs (Nov. 6)	6 Santa Maria, Coalinga	7 Wheeler Ridge, Fruitvale	8 Orcutt, Ventura, Rincon	9 Ventura Ave.* Potrero†	10 Elwood Terrace	11 Seal Beach (Nov. 4)
14 to 14.9	.70	.70	.50	.70	....	.50	.50	.65	.40	....	.70
15 to 15.9	.70	.70	.50	.70	....	.50	.50	.65	.40	....	.70
16 to 16.9	.70	.70	.50	.70	....	.50	.50	.65	.40	....	.70
17 to 17.9	.70	.70	.50	.70	....	.50	.50	.65	.40	....	.70
18 to 18.9	.75	.75	.56	.70	....	.56	.56	.70	.40	....	.75
19 to 19.9	.80	.80	.62	.75	....	.62	.62	.70	.40	....	.80
20 to 20.9	.85	.84	.68	.80	....	.68	.68	.70	.40	....	.85
21 to 21.9	.89	.88	.74	.85	.89	.74	.74	.86	.40	....	.89
22 to 22.9	.93	.91	.80	.90	.92	.80	.80	.87	.40	....	.93
23 to 23.9	.97	.94	.85	.95	.95	.85	.85	.90	.40	....	.97
24 to 24.9	1.01	.97	.90	.98	.98	.88	.88	.94	.40	....	1.01
25 to 25.9	1.05	1.00	.95	1.01	1.01	.91	.91	.98	.60	....	1.05
26 to 26.9	1.09	1.04	1.00	1.04	1.04	.94	.94	1.02	.60	....	1.09
27 to 27.9	1.13	1.08	1.05	1.07	1.07	.98	.97	....	.60	....	1.13
28 to 28.9	1.17	1.12	1.10	1.10	1.10	1.02	....	....	.60	....	1.17
29 to 29.9	1.21	1.16	1.16	1.13	1.15	1.06	....	....	.60	....	1.21
30 to 30.9	1.25	1.20	1.32	1.16	1.20	1.10	....	....	.60	....	1.25
31 to 31.9	1.30	....	1.28	....	1.25	1.14	....	....	.60	....	1.30
32 to 32.9	1.35	....	1.34	....	1.30	1.18	....	....	.60	....	1.35
33 to 33.9	1.41	....	1.40	....	1.35	1.22	....	....	.60	....	....
34 to 34.9	1.47	....	1.46	....	1.40	1.26	....	....	.60	1.16	....
35 to 35.9	1.53	....	....	....	1.45	1.30	....	....	.60	1.22	....
36 to 36.9	1.59	....	....	....	1.50	....	....	....	.60	1.28	....
37 to 37.9	1.65	....	....	....	1.55	....	....	....	.60	1.34	....
38 to 38.9	1.71	....	....	....	1.60	....	....	....	.60	1.40	....
39 to 39.9	1.77	....	....	....	1.65	....	....	....	.60	1.46	....
40 to 40.9	1.83	....	....	....	....	....	....	....	.60	1.53	....
41 to 41.9	1.89	....	....	....	....	....	....	....	.60	1.58	....
42 to 42.9	1.95	....	....	....	....	....	....	....	.60	1.64	....

*October 22. †Sunset Pacific Oil Co., October 26.

Kern River, Newhall-McKittrick, Mount Poso and Round Mountain 11 to 13.9 gravity 45 cents, 14 gravity and above 50 cents, effective October 2, 1929. On December 1, 1928, the Union Oil Co. posted Midway-Sunset, Elk Hills, Buena Vista, Lost Hills and Coalinga crude as follows: 11 to 13.9 gravity at 45 cents, 14 gravity and above 50 cents.

Column 1—Signal Hill, Seal Beach, Huntington Beach and Alamitos Heights crude, 14 to 32.9 gravity, inclusive; Richfield, Olinda-Brea and Fullerton, 14 to 30.9 gravity; Torrance and Inglewood, 14 to 28.9 gravity; Dominguez and Athens-Rosecrans, 24 to 42.9 gravity.

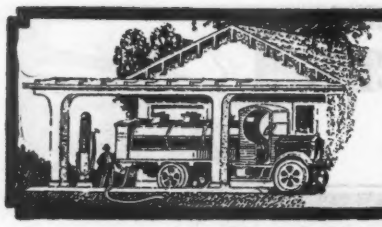
Column 2—Whittier crude, 14 to 22.9 gravity; Coyote Hills, 14 to 30.9 gravity.

Column 3—Kern River, Newhall and McKittrick, 11 to 13.9 gravity; Midway-Sunset, Buena Vista and Elk Hills, 11 to 33.9 gravity; Lost Hills, 11 to 34.9 gravity; oil below 14 gravity posted at 45 cents.

Column 6—Oil below 14 gravity posted at 45 cents.

Columns 8 and 9—Posted by Union Oil Co. only.

Kettleman Hills, 55 gravity and above, $1.65 (posted by Standard Oil Co. of California).



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Dec. 17

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Chicago†	17.0	18.0	3.0	13.0
Decatur, Ill.	19.2	20.2	3.0	13.1
E. St. Louis	15.4	15.4	3.0	12.2
Joliet	19.4	20.4	3.0	13.3
Peoria	19.2	20.2	3.0	13.1
Quincy	19.2	20.2	3.0	12.9
Davenport, Ia.	19.5	20.5	3.0	13.3
Des Moines	19.5	20.5	3.0	13.3
Keokuk	19.5	20.5	3.0	13.3
Sioux City	19.1	20.1	3.0	12.9
Duluth, Minn.	20.5	21.5	3.0	13.9
Mankato	20.1	21.1	3.0	13.7
Minneapolis	20.2	21.2	3.0	13.9
LaCrosse, Wis.	19.2	20.2	2.0	14.0
Milwaukee	18.1	19.1	2.0	12.9
Madison	18.3	19.3	2.0	13.1
Detroit, Mich.	19.8	20.8	3.0	14.7
Grand Rapids	19.7	20.7	3.0	14.6
Saginaw	19.9	20.9	3.0	14.8
Evansville, Ind.	20.0	21.0	4.0	14.0
Fort Wayne	20.4	21.4	4.0	14.4
Indianapolis	20.2	21.2	4.0	14.2
South Bend	20.4	21.4	4.0	14.4
Fargo, N. D.	21.9	22.9	3.0	15.9
Huron, S. D.	21.3	22.3	4.0	14.7
Sioux Falls	20.1	21.1	4.0	14.4
K. C., Mo.*	18.9	19.9	3.0	11.6
Springfield*	18.8	19.8	3.0	12.5
St. Louis*	17.9	18.9	2.5	12.3
St. Joseph	18.5	19.5	2.0	12.2
Wichita, Kans.	17.8	18.8	3.0	11.8
Bartlesville, Ok.	18.5	19.5	4.0	11.5

*State tax 2 cents; remainder city tax.
†Effective February 20, discounts on Q.D.A. in Chicago district 2 cents off service station price on purchases of 500 gallons or more per month and 4 cents on purchases of 1,000 gallons or more per month.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	14.7	12.9
V. M. & P. Naphtha	16.7	13.9
Cleaner's naphtha	17.0	14.9
Stanisol	17.0	15.4

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL IN CHICAGO

Less than 100 gallons	9.0
100 to 349 gallons	8.0
350 gallons or more	7.5

Note—Outside Chicago furnace oil discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

The following quantity discounts from the service station price are allowed on monthly sales of gasoline: 2,000 gallons or less, 2 cents; more than 2,000 and less than 6,000 gallons, 2½ cents; more than 6,000 gallons, 3 cents. Discounts are allowed each month and they are not cumulative. Delivery tickets showing date and quantity delivered must be sent to the seller before the tenth of the month to secure the discount on the previous month's purchases.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Dallas, Tex.	17.0	21.0	4.0	13.0
Fort Worth	17.0	20.0	4.0	12.0
Houston	13.0	17.0	4.0	11.0
San Antonio	15.0	19.0	4.0	11.0
El Paso	16.0	20.0	4.0	16.0
Texarkana	17.0	19.0	4.0	12.0
Muskogee*	16.0	19.0	4.0	10.0
Okla. City*	17.0	20.0	4.0	10.0
Tulsa*	15.0	19.0	4.0	10.0
Ft. Smith, Ark.	15.0	17.0	5.0	12.0
Little Rock	19.0	21.0	5.0	13.0

*Gasoline tank wagon price to dealers 2 cents under posted tank wagon.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Denver, Colo.	18.0	21.0	4.0	15.5
Pueblo	18.0	21.0	4.0	15.5
Grand Junction	22.5	25.5	4.0	19.0
Casper, Wyo.	20.0	23.0	4.0	14.0
Cheyenne	21.0	24.0	4.0	15.5
Butte, Mont.	25.5	28.5	5.0	20.0
Helena	25.5	28.5	5.0	20.0
Salt Lake, Utah	21.0	21.0	3.5	17.0
Albu'que, N. M.	20.0	23.0	5.0	17.0
Boise, Idaho	23.5	26.5	4.0	19.0
Twin Falls	23.5	27.5	4.0	19.0

PENNSYLVANIA—DELAWARE AND PART NEW ENGLAND

The Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Pittsburgh, Pa.	15.0	*21.0	...	13.0
Philadelphia	15.0	*21.0	...	13.0
Scranton	15.0	*21.0	...	13.0
Allentown	15.0	*21.0	...	13.0
Altoona	15.0	*21.0	...	13.0
Erie	15.0	*19.0	...	13.0
Dover, Del.	18.0	20.0	3.0	13.0
Wilmington	18.0	20.0	3.0	13.0
Springf'd, Mass.	18.0	20.0	2.0	15.0
Worcester	18.0	20.0	2.0	15.0
Boston	18.0	20.0	2.0	15.0
Providence, R.I.	18.0	20.0	2.0	13.0
Hartford, Conn.	18.0	20.0	2.0	14.0
New Haven	18.0	20.0	2.0	15.0

*Includes tax of 4.0 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State. The Atlantic Refining Co. recognizes a 2-cent per gallon discount on gasoline from its posted tank wagon markets on sales to dealers for purposes of resale. The Atlantic Refining Co. also recognizes a maximum discount of 2 cents per gallon on gasoline to commercial accounts under contract for one year.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Albany, N. Y.	18.0	20.0	2.0	15.0
New York*	16.0	18.0	2.0	15.0
Buffalo	18.0	18.0	2.0	14.0
Rochester	18.0	20.0	2.0	14.0
Syracuse	18.0	20.0	2.0	15.0
Boston, Mass.	18.0	20.0	2.0	15.0
Augusta, Me.	20.0	22.0	4.0	15.0
Manch't'r, N. H.	20.0	22.0	4.0	15.0
Burlington, Vt.	19.0	20.0	4.0	15.0

*Prices in steel barrels.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta, Ga.	16.0	20.0	4.0	16.5
Augusta	20.0	22.0	4.0	15.5
Macon	21.0	23.0	4.0	16.5
Savannah	22.0	24.0	4.0	15.5
Birm'ham, Ala.	17.0	19.0	4.0	13.0
Mobile	18.0	20.0	4.0	15.0
Montgomery	19.0	21.0	4.0	16.5
Clarks'le, Miss.	18.0	20.0	5.0	12.5
Jackson	19.0	21.0	5.0	13.0
Natchez	20.5	20.5	5.0	14.0
Gulfport	22.5	24.5	5.0	14.0
Vicksburg	20.5	22.5	5.0	14.0
Jack'ville, Fla.	23.0	24.0	6.0	14.5
Miami	23.0	25.0	6.0	15.5
Pensacola	18.0	20.0	6.0	14.5
Tampa	20.0	22.0	5.0	14.5
Lexington, Ky.	20.0	22.0	5.0	15.5
Covington	20.0	21.0	5.0	15.5
Louisville	21.0	23.0	5.0	13.0
Ashland	20.0	21.0	5.0	15.5
Catlettsburg	20.0	21.0	5.0	15.5

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. Pensacola and Mobile taxes include 1-cent city levy. Gulfport tax includes privilege tax of 2 cents in addition to state tax.

Effective April 2, price to dealers 2 cents under posted tank wagon price.

PACIFIC COAST TERRITORY

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
San Francisco	20.0	24.0	3.0	15.5
Los Angeles	19.5	23.5	3.0	15.5
Reno, Nev.	24.0	26.0	4.0	19.0
Portland, Ore.	20.5	24.5	3.0	16.5
Seattle, Wash.	20.5	23.5	3.0	16.5
Tacoma	20.5	23.5	3.0	16.5
Spokane	24.5	27.5	3.0	20.5
Phoenix, Ariz.	18.0	22.9	4.0	20.5

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Omaha	20.25	22.25	4.0	13.25
McCook	21.75	23.75	4.0	14.75
Norfolk	20.75	22.75	4.0	13.75
N. Platte	21.75	23.75	4.0	14.50
Scottsbluff	21.75	23.75	4.0	14.25

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlantic City	16.0	18.0	2.0	13.0
Newark, N. J.	17.0	19.0	2.0	13.0
Annapolis, Md.	19.0	21.0	4.0	13.0
Baltimore	19.0	21.0	4.0	12.0
Cumberland	20.0	22.0	4.0	13.0
Washington	17.0	19.0	2.0	12.0
Danville, Va.	21.0	23.0	5.0	12.0
Norfolk	20.0	22.0	5.0	12.0
Petersburg	21.0	23.0	5.0	13.0
Roanoke	21.0	23.0	5.0	13.0
Richmond	20.0	22.0	5.0	13.0
Charles'n, W.Va.	19.0	21.0	4.0	13.0
Keyser	20.0	22.0	4.0	13.0
Parkersburg	19.0	21.0	4.0	12.0
Wheeling	20.0	22.0	4.0	13.0
Charlotte, N. C.	19.0	21.0	5.0	13.0
Hickory	21.0	23.0	5.0	13.0
Mt. Airy	21.0	23.0	5.0	13.0
Salisbury	19.0	21.0	5.0	13.0
Charleston, S.C.	21.0	23.0	6.0	13.0
Columbia	22.0	24.0	6.0	13.0

A 2-cent per gallon discount off the gasoline tank wagon price is offered to dealers.

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Ohio points*	18.0	19.0	4.0	†12.0

*Dealers and commercial accounts 2 cents under tank wagon.
†Service station price 14 cents.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
N. Orleans, La.*	15.0	15.0	5.0	13.0
Baton Rouge	16.0	18.0	4.0	14.5
Alexandria	19.0	21.0	5.0	16.0
Lafayette†	20.0	22.0	5.0	14.0
Lake Charles†	20.5	22.5	5.0	16.0
Shreveport	19.5	21.5	4.0	15.0
Knoxv'le, Tenn.	20.0	22.0	5.0	16.0
Memphis	18.0	20.0	5.0	12.5
Chattanooga	20.0	22.0	5.0	14.0
Nashville	19.0	19.0	5.0	16.0
Bristol	21.0	22.0	5.0	14.0
Lt. Rock, Ark.	19.0	21.0	5.0	13.0

*Tax of 5 cents includes city tax of 1 cent. Louisiana Kerosene prices include 1-cent state tax and 1-cent parish tax.
†Includes 1-cent parish tax.

TANK WAGON CHANGES

December 3—Standard Oil Co. of Kentucky reduced the gasoline tank wagon and station prices 2 cents in Tampa, Fla., to 20 cents and 22 cents.

December 11—Standard Oil Co. of Louisiana reduced the gasoline tank wagon and station prices 2 cents in Memphis, Tenn., to 18 cents and 20 cents. The company also reduced the gasoline tank wagon price 2 cents in Baton Rouge, La., to 16 cents.

December 14—Standard Oil Co. of Indiana reduced the tank wagon price on oleum spirits 1 cent to 14.7 cents and varnish makers and painters naphtha one-half cent to 16.7 cents in Chicago.

GULF COAST FUEL OIL QUOTATIONS LOWERED

HOUSTON, Tex., Dec. 17.—An attempt on the part of some sellers to move fuel oil the past week was gaining momentum Monday and Tuesday with the result that quotations on bunker C for cargo movement have sharply felt the weakened market. Sellers, who for several months have been holding steady in price at 75 cents despite slow demand, Tuesday were offering material at 65 cents and in some cases as low as 60 cents.

This situation has arisen suddenly and probably is due to the large stocks held by some sources of supply, these stocks having accumulated during a long period of inactive movement due to a situation of high tanker rate and a prohibitive eastern market which held the Gulf market in its grip. The weakened situation has been augmented by a plentiful supply of Venezuelan crude and fuel oil being offered in competition.

Neutral Oils

Other products are little changed except for a slightly steadier tone in pale and red oils occasioned by sellers trying to hold to posted quotations on all grades established several weeks ago. Some competition material still is being offered from some sources but the majority of sellers are trying to ignore this and demand their own. Kerosene, which early the past week slackened in demand due to the warmer weather, is showing signs of renewing its activity particularly in the local Coastal demand. Gasoline is being held steadily around 8¼ cents for local trade.

VENEZUELA COMPLETIONS

The Colon Development Co., Ltd., operating subsidiary in Venezuela of Colon Oil Corp., reports eight wells under test with a combined production of 19,425 bbls. Two new completions are announced, T-43, initial production 620 bbls. per day, and T-46, initial production 450 bbls. per day.

CRUDE OIL PRICES

(Continued from Page 143)

SOUTH CENTRAL AND SOUTHWESTERN TEXAS

Luling (May 2)*	$ .90
Mirando (May 20, 1929)†	.90
Salt Flat (May 20, 1929)‡	1.25
Rockdale Minerva (April 15)	
Below 28 gravity	1.25
28-28.9 gravity	1.27
29-29.9 gravity	1.29
40 and above	1.31
Thrall‡	...
Callihan (May 15)	1.75
Lytton Springs (Lockhart)	See gravity table
Somerset	See gravity table

*Posted by Magnolia Petroleum Co.
†Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co.
‡Thrall prices same as North Central Texas less 19½ cents per cwt. freight.
§Humble Oil & Refining Co.

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective October 1, 1929)

Penna Grade Oil in New York Transit Lines (New York)	$3.05
Bradford District Oil in National Transit Lines (Pennsylvania)	3.05
Penna Grade Oil in National Transit Lines (Pennsylvania)	3.05
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	3.00
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	2.90
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	2.70
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (May 22, 1929)	1.75
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s Line (May 22, 1929)	1.70
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s lines (May 22, 1929)	1.80
Somerset Oil in Cumberland Pipe Line Lines (Kentucky) (Nov. 12, 1929)	1.55
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky) (Jan 29)	.60
Wayne district oil in Cumberland Pipe Lines	1.42

MIDDLE WESTERN STATES

Ohio Oil Co.
(Effective May 21, 1929)

Lima	$1.80
Wooster	1.90
Illinois	1.75
Indiana	1.57
Princeton	1.75
Plymouth	1.28
Waterloo (November 17, 1926)	1.35
Western Kentucky	1.68
Dundee, Mich. (Sept. 17, 1929)‖	.....
	Same as Mid-Continent gravity scale
Upper and Lower Traverse sands, Mich‖	
	Same as Mid-Continent gravity scale
Midland, Mich. (December 6, 1929)*	$1.50
Saginaw, Mich., Saginaw Sand (February 10)†	1.89
Saginaw, Mich., Berea Sand (February 10)†	1.79
Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky (March 15)‡	1.50
Oil in line in Stoll Oil Refining Co. in Oil City, Ky. (Oct. 7, 1929)§	1.70
Oil Springs (Canada)¶	2.37
Petrolia (Canada)¶	2.20

*Posted by Pure Oil Co.
†Posted by Sun Oil Co.
‡Posted by Paragon Development Co.
§Posted by Stoll Oil Refining Co.
¶Posted by Imperial Oil Co., Ltd.
‖Posted by Standard of Indiana for boat shipment.

MEXICAN CRUDE

Panuco*	$ .64

*Based on November transactions for deliveries during November and December. Price exclusive of taxes.

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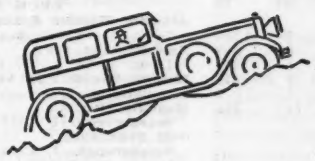

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MOTOR OIL

WEST TEXAS FIELDS

(Continued from Page 71)

been producing from its total depth of 8,525 feet for a little over a year, set two gas peaks during the week, one of them reaching 26,946,000 feet and the second, on the following day reaching 27,034,000 feet. Oil gauges for the week averaged 2,842 bbls. Total production for the well is 881,513 bbls.

Big Lake Oil Co.'s No. 179 University, in the northwest part of the Big Lake Field, is now building a rig. This test may go to the deep pay if a profitable commercial producer is not found in the 2,400 or 2,900-foot pay horizons.

WEST TEXAS COMPLETIONS
Week Ending December 14

Brewster County

Cowden & Cole's No. 1 Jackson-Harmon, located Section 1, Block 331, 556 feet east and 454 feet south of NW cor. of section, T.C.R.R. Survey, was dry and abandoned at 2,000 feet. J. M. Hickey's No. 1 Jackson-Harmon, located 150 feet from north, 330 feet east of Section 182, Block 9, was dry and abandoned 1,302 feet.

Crane County

The Texas Company's No. 3 University-Gafford, located 2,310 feet from north, 330 feet from west of Section 46, Block 30, topped the salt at 1,010 feet, topped the lime at 2,724 feet, topped the pay at 2,825 feet, was drilled to a total depth of 3,000 feet and had an initial production of 237 bbls. Tidal Oil Co.'s No. 2-D University, located 2,310 feet from south, 990 feet west of Section 34, Block 30, topped the salt at 1,115 feet, topped the pay at 2,955 feet, topped the lime at 2,829 feet, was drilled to a total depth of 3,032 feet and had an initial production of 200 bbls.

Glasscock County

Simms Oil Co.'s No. 1 Coffee, located 330 feet from north, 1,650 feet from east of Section 22, Block 33, Township 2s, topped the pay at 2,146 feet, was drilled to a total depth of 2,156 feet and had an initial production of 39 bbls. hourly. E. L. Smith's No. 2 Coffee, located 330 ft. south and 990 feet east of Section 12, Block 33, Township 2s, topped the lime at 2,030 feet, topped the pay at 2,103 feet, was drilled to a total depth of 2,130 feet and had an initial production of 20 bbls. hourly.

Howard County

Green Oil & Refining Co.'s No. 3 Clay, located 250 feet from south, 660 feet from east of Section 127, Block 29, had an initial production of 195 bbls. at 2,960-85 feet.

Irion County

Kingwood Oil Co.'s No. 1 Suggs, located in Section 19, Block 7, H.&T.C. R.R. Survey, was drilled to a total depth of 7,818 feet and estimated 140,000 feet of gas at 7,656-57 feet, swabbed 14 bbls. high gravity oil after standing seven days. This well was plugged back to 7,668 feet and will shoot show from 7,656-57 feet.

Pecos County

Landreth Production Co.'s No. 3-G University, located 990 feet from south, 2,310 feet from west of Section 31, Block 16, topped the salt at 915 feet, topped the lime at 1,370 feet, topped the pay at 1,657 feet and was drilled to total depth of 1,670 feet, making 92½ bbls. oil hourly. Cardinal Oil Co.'s (Morgan) No. 2 Toborg, located 330 feet east, 150 feet south of its No. 1 in Section 537, Block 1, topped the lime at 1,200 feet, topped the pay at 1,265 feet, was drilled to a total depth of 1,285 feet, plugged back to 1,280 feet and had an initial production of 3 bbls. Phillips' No. 3 Pryor, located 365 feet from north, 440 feet west of Section 78, Block OW, had an initial production of 77 bbls. in 10 hours at 1,380-97 feet. Rector Oil Co.'s No. 1 State, located 330 feet from south and east of Section 106, Block 8, was dry and abandoned at 2,000 feet. Texas-Phillips' No. 1 Campbell, located 1,320 feet from southwest and 330 feet from southeast, Section 46, Block 10, had an initial production of 65 bbls. at 1,725-75 feet. This well was drilled to a total depth of 2,504 feet. Zoch and others' No. 1-A Cordover Union Land, located 1,320 feet from south and west of Section 81, Block 11, was dry and abandoned at 1,937 feet.

Presidio County

L. C. Brite's No. 4-C fee, located 271 feet from north, 1,188 feet east of Section 245, Block 4, was abandoned at 670 feet.

Ward County

Shipley's No. 3 Hayzlet, located 2,490 feet south, 1,470 feet west of Section 17, Block 5, had an initial production of 60 bbls. daily after having been shot with 270 quarts at 2,465-2,500 feet.

Winkler County

Humble Oil & Refining Co.'s No. 1-D Hendricks, located 330 feet south and 2,310 feet west of Section 41, Block 26, had an initial production of 495 bbls. daily at 2,812-2,900 feet.

PIPE LINE RUNS
November 27 to December 4

Runs Through Trunk Lines

	Last period
Atlantic P. L. Co., Port Arthur	24,500
Gulf P. L. Co., to coast via Ranger	43,671
Humble P. L. Co., Comyn, Tex.	39,109
Humble P. L. Co., Ingleside	47,913
Illinois P. L. Co., Del Rio, Tex.	44,093
Magnolia P. L. Co., De Leon, Tex.	20,445
Pasotex P. L. Co., El Paso, Tex.	6,855
Shell P. L. Co., Healdton, Okla.	35,573
Shell P. L. Co., Houston, Tex.	18,426
The Texas Company, Houston, Tex.	26,605
Total	307,250

Tank Car Shipments

Reagan County Pur. Co., McCamey	1,525
Thomas & Brann, Grant City	115
Orient Co., McCamey	100
American Pet. Co., Pyote	....
Southern Crude O. P. Co., Wickett	16,283
Total	18,023

Runs to West Texas Refineries

Bluebonnett Ref. Co., Wickett	3,077
Burford Ref. Co., Pecos	4,997
Col-Tex Ref. Co., Colorado	7,500
Cosden Ref. Co., Big Spring	7,990
Great Western Ref. Co., Big Spring	3,509
Humble Oil & Ref. Co., McCamey	....
Mid-Tex Ref. Co., Midland	216
Tonkawa Ref. Co., Pyote	....
Big Spring Ref. Co., Big Spring	1,199
Richardson Ref. Co., Big Spring	4,064
Wickett Ref. Co., Pyote, Tex.	250
Total	31,802

Summary

	Previous period	This period
Pipe line runs through trunk lines	310,325	307,250
Tank car shipments	17,294	18,023
Runs to West Texas Refineries	35,238	31,802
Total daily distribution	362,857	357,075
Total daily production	354,551	347,810
Daily average from storage	8,306	9,265

PECOS COUNTY
Week ending December 10

Company, lease—	Wells	Prod.
M. H. Black:		
Fee	1	10
California Co.:		
Yates—Lease 1	19	10,224
Smith—Lease 1, Sec. 37	4	678
Smith—Lease 1, Sec. 23	8	2,822
Smith—Lease 1, Sec. 21	5	777
Smith—Lease 2	3	114
Smith—Lease 3	13	1,682
Smith	2	19
Tippett—Lease 1	1	30
University	1	65
Continental Oil Co.:		
Yates-A	8	516
Salvage	..	4,935
University-A	3	437
Cosby Drlg. Co.:		
Smith	2	660
Doran & McGee:		
Pecos Valley	1	24
Grayburg Oil Co.:		
Pecos River Bed	6	359
Salvage	..	249
Gulf Prod. Co.:		
All leases	42	17,156
Henshaw Oil Corp.:		
University	1	40
Humble Oil & Ref. Co.:		
Smith-A	11	1,929
Smith-B	7	1,097
Kirby Pet. Co.:		
Tippett	2	60
Kirby Pet. and Edson:		
Tippett	1	240
McCarty Oil Co.:		
Gray	1	10
Bennett	1	10
McMan Oil & Gas Co.:		
Smith-A	1	1,783
Smith-B	4	1,457
Smith-C	9	1,060
Tippett	3	358
Richardson	2	129
McMan and Continental:		
Yates	17	6,135
Mid-Kansas and Transcontinental:		
Yates-A	28	21,023
Yates-B	27	7,150
Salvage	..	195
Yates-C	11	8,203
Salvage	..	206
Yates-G	7	8,169
Yates-E	3	839
Yates-F	4	835
Yates-G	3	1,290
Yates-H	10	9,046
Smith	6	2,464
Smith-Taylor	19	4,465
Landreth Prod. Co.:		
University-A	2	713
University-C	2	1,031
University-D	2	12
University-F	1	20
University-G	2	454
University-H	1	20
Landreth and World:		
University-B	5	3,046
J. D. O'Mara:		
Butz	1	30
Pecos Valley Oil:		
Fee, Sec. 22, Blk. 26	3	94
Phillips Pet. Corp.:		
Monroe	2	180
Ramsey	4	1,128
Smith	3	650
Plymouth Pet. Corp.:		
Perry	1	45
Red Bank Oil Co.:		
Smith	5	447
Savoy and Mazda:		
Smith	3	660
Shell Pet. Corp.:		
Tippett	11	2,884
Smith-A	11	1,455
Smith-B	1	675
Smith-D	4	812
Bower-University-C	4	887
Smith-E	1	30
Simms Oil Co.:		
Smith	7	7,172
Skelly Oil Co.:		
Tippett	2	226
Taylor-Link:		
University	6	617
World Oil Co.:		
University	1	40
Total Pecos Field	382	142,288

DAILY AVERAGE PRODUCTION BY LEASES WINKLER COUNTY
Week ending December 10

Company, farm, sec., blk.—	Wells	Prod.
Amerada Pet. Corp.:		
Cowden, 3, B-12	3	35
Atlantic O. P. Co.:		
Hendricks-A, 34, B-5	7	1,810
Hendricks-B, 44, 26	6	609
Hendricks-D, 29, B-5	8	533
Hendricks-E, 41, B-5	6	646
Hendricks-G, 46, 26	7	3
Hendricks-F, 40, 26	12	201
Bankers Prod. Co.:		
Hendricks, 30, B-5	1	....
V. T. Bolin:		
Brown-Altman, 4, B-5	1	4
California Co.:		
Hendricks, 29, B-5	7	599
Continental Oil Co.:		
Hendricks, 33, 26	4	453
Hendricks-A, 29, 26	2	64
Hendricks-B, 34, 26	2	1
Cranfill & Reynolds:		
Hendricks-A, 28, B-5	2	219
Hendricks-B, 33, B-5	1	69
Hendricks-C, 33, 26	2	369
Hendricks-E, 33, 26	2	144
Cranfill & Texon:		
Hutchings, 47, 26	2	247
Culberson Bros.:		
Hendricks, 40, B-5	1	59
Eastland Oil Co.:		
Hendricks, 35, B-5	2	285
Hendricks-B, 46, 26	1	138
Gulf Prod. Co.:		
Hendricks-A, 34, B-5	13	5,007
Hendricks-B, 45, 26	11	2,394
Hendricks-C, 40, B-5	6	443
Hendricks, 44, 26	3	498
Cowden, 3, B-12	3	94
Humble Oil & Ref. Co.:		
Hendricks-A, 34, B-5	17	4,448
Hendricks-B, 29, B-5	6	1,657
Hendricks-C, 32, 26	8	464
Hendricks-D, 41, 26	1	215
Hendricks-B, 39, 26	3	196
Hendricks-C, 10, B-12	13	6,560
Walton-A, 48, 26	1	90
Independent Oil & Gas:		
Hendrick-A, 34, B-5	7	808
Howe-B, 44, 26	3	123
McCabe, 36, B-5	2	151
Vardeman-B, 41, B-5	6	269
Lion Oil Co.:		
Hendricks-A, 41, B-5	11	1,677
Hendricks-E, 34, B-5	13	2,292
Hendricks-C, 45, 26	14	4,260
Hendricks-D, 44, 26	1	96
Magnolia Pet. Co.:		
Hendricks, 29, B-5	8	399
May Prod. Co.:		
Hendricks-A, 28, B-5	1	22
Hendricks-B, 28, B-5	2	49
Mining & Engineering:		
Hendricks, 10, B-12	1	....
Murchison and Cranfill:		
Hendricks-A, 35, B-5	2	323
Hendricks-B, 35, B-5	3	399
Hendricks-C, 35, B-5	1	....
Hendricks-H, 35, B-5	1	529
Hendricks-I, 34, 26	1	99
Republic Prod. Co.:		
Hendricks-A-B, 45, 26	12	1,159
Hendricks-C, 41, B-5	5	82
Prairie Oil & Gas Co.:		
Hendricks, 40, 26	6	1,270
Cowden, 3, B-12	6	1,508
Shell Pet. Corp.:		
Hendricks-A, 45, 26	5	528
Hendricks-B, 29, B-5	5	2,145
Hendricks-C, 29, B-5	7	383
Hendricks-D, 41, B-5	3	82
Hendricks-E, 40, B-5	3	299
Hendricks-F, 46, 26	6	244
Hendricks-G, 39, 26	1	57
Shell-The Texas Company:		
Cowden-A, 3, B-12	6	1,823
Hendricks, 45, 26	6	3,076
Hendricks-A, 29, B-5	7	768
Hendricks-B, 40, 26	4	204
Hendricks-C, 40, 26	6	1,133
Hendricks-D, 40, 26	6	205
Hendricks-E, 39, 26	2	86
Skelly Oil Co.:		
Hendricks, 40, 26	12	3,239
Hendricks-B, 10, B-12	2	17
Hendricks-C, 39, 26	1	75
Southern Crude O. P. Co.:		
T-67 Hendricks-A, 42, B-5	3	93
T-67 Hendricks-3-A, 4, B-12	4	375
T-67 Hendricks-B, 44, 26	5	295
T-67 Hendricks-3-B, 33, 26	4	500
T-67 Hendricks-C, 33, B-5	5	465
T-67 Hendricks-2-D, 27, 26	5	927
T-67 Hendricks-E, 42, B-5	4	97
T-67 Hendricks-F, 33, B-5	5	495
T-68 Hendricks-3-A, 35, B-5	2	113
T-68 Hendricks-B, 46, 26	2	31
T-88 Hendricks-A, 44, 26	6	535
T-88 Hendricks-B, 4, B-12	4	140
T-88 Hendricks-C, 28, B-5	8	893
T-88 Hendricks-D, 4, B-12	6	1,886
T-88 Hendricks-H, 28, B-5	7	621
T-88 Hendricks-I, 20, B-5	7	346
T-88 Hendricks-J, 30, B-5	5	454
T-88 Hendricks-K, 41, 26	7	961
T-88 Hendricks-L, 4, B-12	4	401
T-88 Hendricks-M, 33, 26	33	9,458
T-88 Hendricks-N, 28, 26	7	2,049
T-88 Hendricks-O, 22, 26	4	320
T-88 Hendricks-P, 28, 26	2	305
T-88 Hendricks-Q, 27, 26	2	821
T-88 Hendricks-R, 27, 26	3	786
T-88 Hendricks-S, 34, 26	4	1,468
T-88 Hendricks-T, 34, 26	7	1,073
T-88 Hendricks-U, 41, 26	9	1,061
T-88 Hendricks-V, 29, 26	1	62
T-88 Hendricks-W, 5, B-12	1	242
T-88 Hendricks-CX, 21, 26	4	995
T-89 Hendricks-A, 45, B-5	3	124
T-89 Hendricks-B, 35, B-5	2	310
T-89 Hendricks-C, 35, B-5	3	511
T-89 Hendricks-D, 35, B-5	1	155
T-89 Hendricks-E, 40, B-5	3	113
T-89 Hendricks-F, 40, B-5	2	168
T-89 Hendricks-H, 46, 26	2	160
T-89 Hendricks-I, 10, B-12	2	25
T-89 Hendricks-J, 9, B-12	8	686
T-89 Hendricks-L, 15, B-12	2	540
T-90 Hutchings, 47, 26	2	377
Texon Oil & Land Co.:		
Hendricks-A, 41, B-5	6	150
Hendricks-B, 45, 26	6	1,502
Total Hendricks Pool	565	91,532

LECK AREA

Atlantic, Kesslar & Logan:		
Leck, 3, 74	2	83
Amerada Pet. Corp.:		
Leck, 3, 74	2	235
Empire Gas & Fuel Co.:		
Daugherty, 3, 74	3	143
Magnolia Pet. Co.:		
Scarborough, 1, C-22	2	164
Gulf Prod. Co.:		
Scarborough, 1, C-22	1	52
Daugherty, 3, 74	1	465
Shell-Llano Oil Co.:		
Daugherty, 1, C-22	5	266
Shell-Danciger:		
Daugherty, 3, 74	2	64
Skelly Oil Co.:		
Daugherty, 22, 16	4	1,159
Tidal Oil Co.:		
Scarborough, 1, C-22	1	88
Prairie Oil & Gas Co.:		
Leck, 16, 74	1	273
Daugherty, 3, 74	1	129
Scarborough, 1, C-22	1	62
Warner-Quinlan:		
Leck, 3, 74	1	392
Total Leck Pool	27	3,575

O'BRIEN POOL

Continental Oil Co.:		
Morton-A, 10, B-12	1	84
Morton-A, 10, B-12	12	83
Wentz Oil Corp.:		
Morton, 10, B-12	1	93
Simms Oil Co.:		
Sealy, 50, F	1	17
Richardson et al:		
Stockton, 50, F	1	....
Total O'Brien Pool	6	277
Grand total Winkler Co.	598	95,384

CRUDE SUPPLY IN LINE WITH DEMAND

(Continued from Page 42)

ures became effective in the Mid-Continent, so that the future situation for the country as a whole is largely in the hands of the California operators.

Imports

The imports of refinery products continue to increase. The imports of crude oil, as previously stated, were substantially less in October than in September. However, this decrease was partially offset by the fact that the imports of refined products jumped from 2,725,000 bbls. in September to 3,642,000 bbls. in October. Imports of gasoline increased from 901,000 bbls. in September to 1,026,000 bbls. in October and the fuel oil and gas oil increase was from 1,811,000 bbls. in September to 2,589,000 bbls. in October.

This increase in imports of refined products is due to the expansion of South American refineries. Most of this expansion is coming from refineries owned by companies in this country. They are using these plants to supply their requirements in this country. It is certain that this development will continue to increase in importance in 1930.

Gasoline

The outstanding development in the gasoline situation as shown in the October report was a reduction in the gaso-

line gain over the same period last year. The increase in the domestic demand, based on refinery shipments, was 7 per cent over October, last year. This increase of 7 per cent compares with an average increase of over 15 per cent for the first nine months of 1929 over the same period in 1928.

This lower October decrease is not because of any unwarranted slump in actual consumption but can be explained as due to the fact that gasoline consumption in this country began to show an abnormal increase in the fall of 1928, which continued through the first nine months of 1929. Due to this fact, it is probable that the percentage increase figures for November and December when they become available will not be as large as they were earlier in the year.

The exceptionally heavy gain in gasoline consumption the latter part of 1928 and throughout the first nine months of 1929 has been explained by some as due to the large increase in output of the Ford Motor Co. The Ford production of the Model A cars continued at a high figure until about 60 days ago when curtailment became necessary. It is believed that the large number of these Ford cars, amounting to approximately 2,000,000 new units for 1929, has been responsible in part at least for the large percentage gain in gasoline requirements.

Kerosene

Although there has been considerable concern recently among refiners regarding the kerosene market, the latest government report does not reflect any unusual condition. For the first 10 months of this year both the total supply and the total demand were less than for the same period last year. Fortunately, the decline in the former was greater than in the latter, so that the total supply for the first 10 months of this year was slightly less than the total demand.

In October the domestic demand for kerosene was less than in September, but the exports increased 100 per cent, totaling 2,252,000 bbls. in October. The government reports lead to the conclusion that the slump in the market, particularly noticeable at interior refineries, is seasonal and temporary.

Lubricating Oil

The statistical situation of lubricating oils, especially those made from paraffin base crude oils, continued strong through October. The domestic demand slumped, but this was largely offset by an increase in exports.

As in the case of kerosene, the yearly increase in demand for lubricating oils is not large but, fortunately, the supply is kept in line with the requirements. For the first 10 months of this year the total demand exceeded the supply by 319,000 bbls. Stocks on October 31 were 2.4 per cent greater than on the same date last year.

Fuel Oil and Gas Oil

For the first time in several months there was a decline of approximately 1,000,000 bbls. in stocks of fuel oil and gas oil at refineries in United States. The general trend in these stocks has been upward for a period of over two years. For the first 10 months of this year 14,892,000 bbls. were added to storage.

The statistical situation in regard to these products, however, has shown improvement recently and it has already been reflected in prices in several of the interior refining areas. Should a healthy balance between crude oil supply and demand continue, it is certain that the fuel oil and gas oil situation will continue to improve with a gradual return to a normal price condition.

Petroleum Wax

The government figures for October do not reflect any improved situation in regard to wax. Exports of wax showed a substantial increase in October over September but the domestic demand declined so that approximately 5,500,000 bbls. were added to storage.

The supply of wax has been greater than the demand over the greater part of the past year so that stocks on October 31 were more than double the stocks on October 31, 1928. The supply for the first 10 months of this year increased 4.8 per cent over the same period of last year and the demand slumped 18.6 per cent.

DRILLING FOR OIL IN A WORLD TO ITSELF

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man, a total of from 18 to 20 men, all of whom had to be cared for on houseboats.

As there were few places where shots could be fired on dry land and as some of the shots had to be placed in deep water special arrangements were provided for placing the dynamite charges at the end of long poles with electrical connections stuck down in the water, and for recording of the shots all instruments had to be set up in boats.

Despite the handicaps in the exploration all the seven domes were discovered within the space of just a few months after the work got under way and with the recent proving up of every one of the domes except one, on which so far no test has been completed, it is looked upon as one of the most remarkable achievements in coastal history, and the actual development of the domes by The Texas Company probably is the largest single wildcat development program ever undertaken by any individual company.

OPERATORS IN SANTA FE SPRINGS TAKE ACTION

(Continued from Page 39)

allowable maximum of 150,000 bbls. and keeping it there.

The proposed moratorium, limiting or restricting drilling activities for 60 or 90 days, would take care of the situation during the winter but it would not entirely solve all the difficulties confronting Santa Fe Springs operators. L. P. St. Clair, vice president of the Union Oil Co., and occupying a similar position with the American Petroleum Institute, has gone even further than this in an earnest effort to regulate drilling and production activities at Santa Fe Springs. It is especially apropos that he should initiate conservation work at Santa Fe Springs in view of the fact that the Union Oil Co. discovered this field and holds considerable acreage on top of the structure. He has proposed that unification of drilling and production be effected as soon as possible in order to take care of future conditions as he considers this the only effective method of regulating production in this field during the coming year.

Still Deeper Production

It might not be amiss to mention that unless something definite is accomplished, the California oil industry is in for another very trying year during 1930. Commercial production at Santa Fe Springs may be anticipated down to perhaps 10,000 feet if and when operators go after it. Attention has been directed to this possibility on several occasions during the past few years but it will bear repetition again because of its importance. The real significance of this lies in the probability that there are one or more productive horizons below the Clarke zone now undergoing intensive development. In substantiation there is the status of Oscar Howard's No. 7 Hathaway, which was recently suspended in an oil sand at 9,035 feet. This well has definitely proved the existence of another horizon below the Clarke, although no production test was made of the sand found. Mr. Howard was tempted to finish No. 7 Hathaway but finally held off in the hope other operators would follow a similar procedure and refrain from deeper drilling until conditions improved.

Kettleman Hills Situation

So much for Santa Fe Springs. Now let us look at conditions in the Kettleman Hills Field of Kings County, which has already been proven for a distance of more than 7 miles along the axis. This district is supposed to have been taken out of the picture until July 1, 1931, by the Kettleman Hills agreement which contemplated the regulation of both drilling and production activities. On paper this looked fine but in reality it did not work out so good due to existence of some fee owned acreage within the probable productive confines of the field which was not included in the conservation agreement. The impending completion of a new well on fee acreage threatens to void partially the effectiveness of the Kettleman agreement although it is believed operators will ultimately solve this difficulty in somewhat the same manner in which other similar problems have been ameliorated.

The well which is causing Kettleman operators to sit up and take notice is No. 1 Felix of the Petroleum Securities which has already picked up sufficient oil sand to guarantee production. This potential producer is on an 80-acre lease in Section 35-21-17, and is not amenable to the covenants of the Kettleman agreement. The Petroleum Securities would like to retard the completion of this new well but the lessors want production and are in a position to get it unless some agreement is reached. A concerted effort is already under way to have the lessors come into the conservation program but no action has yet been secured along this line. Officials of the Petroleum Securities have not issued any statement setting forth their position but every attempt is being made to delay completion. The well was recently capped and will remain suspended until erection of an absorption plant has been completed. This new plant will be capable of handling 100,000,000 feet of natural gas daily when finished.

The importance which attaches to the probable completion of No. 1 Felix early next year lies in the fact that it will necessitate the drilling of three or more offsets by the Standard and Continental Oil companies. The Standard will be obliged to finish one new offset and the Continental two new holes or suffer the penalty of having their acreage drained. This work depends, however, on the attitude of the United States Department of Interior as permission will have to be obtained by the Continental before additional development can be undertaken in conformity with the Kettleman agreement. The Standard's position is somewhat analogous with respect to the drilling agreement although this acreage is owned in fee. Unless operators agree on some basis of unified operation in the meantime the ultimate outcome will probably be that the Standard and Continental will both drill one offset well and prorate the output among other operators.

Wildcat Activity

The necessity of keeping daily production at Santa Fe Springs down to a minimum during the coming year is of paramount importance because of the probability that one or more new fields will be discovered during the period. Wildcat exploration has continued unabated in spite of the overproduction situation and should continue at a high rate for some time to come. In Santa Barbara County several potentially productive areas are undergoing intensive exploration and additional work will no doubt be started next year. At Carpenteria several tests are being drilled in search of production out on the ocean floor beyond the tideline and five or six more tests are getting under way on tideland permits at Capitan where General Petroleum recently finished a small shallow pumper. Point Conception, Gaviota, Point Arguello are all undergoing extensive exploration and there is a possibility a wildcat will be drilled on Santa Rosa Island early next year.

The San Joaquin Basin is also undergoing extensive wildcat exploration and the scope of work will be broadened in the near future by the spudding in of several additional tests. The most active section of the San Joaquin Basin from a wildcatting standpoint is that area south of Coalinga and adjacent to the prolific Kettleman Hills Field.

The Associated Oil Co. recently acquired 1,288 acres of potential oil land in the Jacalitos Hills south of the Coalinga Field bringing its total holdings in this area to a little less than 1,800 acres. The Standard, Union, Shell and Continental Oil companies all have protective acreage adjacent to the area which will be tested out by the Associated probably early in 1930. Southeast of the Jacalitos Hills the Richfield Oil Co. has extensive holdings in the Kreyenhagen Hills and tentative plans call for the initiation of exploration work within a few months. The Pyramid Hills southeast of the Kreyenhagen Hills is also being tested out. Northwest of the prolific Kettleman Hills Field of Kings County the Petroleum Securities is testing out several thousand acres in the Guijarral Hills which lie due east of the Coalinga Field in Fresno County. It is evident from this partial summary of exploration work that one or more new fields should be added to California's rapidly growing list during 1930 if prospecting work continues unabated. It is imperative therefore that production in flush fields should be kept down to a minimum.

COKE RESIDUE IN CRACKING OPERATION

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have a practical limit. The material used for repeated cracking gradually loses its technical value due to a steady decrease in the yields of cracked gasolines and continuous increase in gas formation as well as the possibility of coke formation.

By limiting for example to 30-40 minutes at 450 degrees Centigrade the time of exposure to cracking, for a given material a very low velocity of cracking for a third cracking operation is observed, whereby not more than 10 per cent of cracked gasoline is obtained.

Effect on Products

The influence of heavy cracking on the character and the chemical composition of cracked products as shown in Table 5 is of particular interest.

Based on the figures in Table 5 the following conclusions relating to the changes in the chemical composition of cracked gasolines and kerosenes can be drawn: The content in unsaturated hydrocarbons decreases with increased cracking, while the content in aromatics increases rapidly. The cracked gasoline and kerosene after a six-fold cracking of Emba gas oil distillate are composed of aromatics only. This is indicated by the aniline points which are below —17 degrees Centigrade.

The cracked kerosene obtained from the six-fold cracking which solidifies into a semisolid crystalline mass when cooled down to —25 degrees Centigrade, is evidently composed for the most part of lower homologs of naphthalene.

Therefore if only the first, second and third cracking operations are important when working towards high yields in gasoline, the fourth, fifth, etc. cracking might become of great interest in the manufacture of chemical products with very high antiknock value or for making aromatics which could find many technical applications.

It is of great economic importance that cracked residues which are of very little value, can be used as the raw product for making aromatic compounds with a comparatively good yield. Thus, for example, 19.6 per cent of practically pure aromatics boiling below 350 degrees Centigrade were obtained from the fraction above 200 degrees Centigrade on the second cracking of Emba gas oil. This fraction was cracked four more times.

Forms of Recracking

The information given on the kinetics of the recycling processes enables us to draw a number of practical conclusions regarding the most rational forms of recracking.

To simplify the discussion to follow, the name "cracked raw material 1" is adopted for the product used for recracking and obtained from the first cracking operation, while that used for recracking and obtained from the second cracking operation will be called "cracked raw material 2," etc.

On comparing the original product with the cracked raw material 1 and the cracked raw material 2 it can be noticed

that each of them is cracked with a decreased velocity.

If we accept the cracking velocity of the original product as equal to one, the cracking velocities of product 1 and 2 for Emba gas oil distillate will correspond to 0.6 and 0.3, which makes it clear that different cracking conditions have to be found for the two latter than for the original product, i.e., the duration of cracking or the temperature must be increased. In the ordinary recracking method the cracked raw material is mixed with the original product and the mixture is subjected to cracking.

Doubtless the cracked raw material will be only partly cracked under the existing conditions, the inert part being useless and will therefore decrease the productivity of the plant. The following and only rational method for recracking can be recommended: The cracked raw material 1 obtained on cracking the original material is not mixed with the latter but is cracked in an independent apparatus. The cracked raw material 2 in its turn is not mixed with the cracked raw material 1 but is cracked in the next independent apparatus, etc. The first cracking of distillates should produce about 25 to 30 per cent cracked gasoline, while for heavy crudes and fuel oils the yield in cracked gasolines should be reduced to 10 to 15 per cent. The subsequent crackings of cracked gas oils obtained from distillates as well as from crudes or fuel oils are practically identical.

The first cracking operation with fuel oils and tarry crudes may be looked upon as a kind of distillation accompanied by a partial decomposition leading to a distillate. It is carried out generally in a pipe still without a reaction chamber. The cracked gas oil so obtained is then subjected to a further cracking but in the usual cracking apparatus with reaction chambers. This method of reworking fuel oils has already been adopted to some extent by M. W. Kellogg Co. and the Universal Oil Products Co. (flash system).[2]

[2]The Oil and Gas Journal, April 12, 1928, page 140.

SALT CREEK FIELDS RECOVERY METHODS

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good condition if the full benefit from the input wells is to be obtained.

Prior to April 1, 1928, each farm or field district of the Midwest Refining Co. did its own clean-out and other well maintenance work. On that date a newly organized clean-out department took over all of the company tool clean-out work leaving for each district two four-wheel drive and "D" portable clean-out machines to be used for intermediate bailing work, or for cleaning out naturally small and unresponsive wells.

The four-wheel drive machines takes its name from the type of truck used upon which it is mounted and consists of a winch driven by a variable speed 1,200 to 1,800 R. P. M. 40 H. P. electric motor.

This change in methods resulted in a marked increase in efficiency and a corresponding reduction in the duration of the clean-out jobs. This satisfactory type of change is due largely to the efficiency of the clean-out crews who specialized in this type of work, as well as some other well conditions.

About the time the Second sand went on the pump the minimum duration of a good clean-out job was 30 days. It was then good practice to force a hole to cave by agitating water in it with the tools. This was thought to remove the soft material that in future would have fallen in.

As the agitated water picked up the soft material and became mud fluid it was bailed out, then the process was repeated. The rock pressure then was sufficient to keep the oil coming into the hole despite the water column used. After the job was finished the oil would tend to flush off any mud that had been left over the face of the sand.

At the present time the same type of job would do harm much more often than it would do good. The general plan is for short jobs. The rock pressure is down to about 25 pounds and it is incapable of forcing the oil into the hole against a column of water. A film of mud left over the face of the sand tends to choke or seal the minute interstices in the sand and the result is less production after clean-out job than before it.

To prevent such injury and to keep the oil moving into the hole it is now necessary that a clean-out job be accomplished as quickly as possible with a minimum use of water and a minimum amount of agitation of fluid in the hole. As "washing" a hole invariably leaves a film of mud over the sand, it is to be avoided where low pressure conditions obtain.

This clean-out work has been most effective at the edge of leases because of the general down dip oil movement previously mentioned. The fact that the increases became noticeable, with rare exception, at the time the distribution of the Midwest Refining Co. gas input wells became general, is further evidence that gas drive was a prime factor. But at a lease that did not opportunely receive clean-out work the benefit of the movement was diminished or lost depending upon local sand conditions. Considerable additional maintenance work was warranted and performed at the leases that showed the greatest improvement.

Pumping Equipment

At wells that produce considerable sand along with the oil a reduction in clean-out and pulling expense has been accomplished by means of special non-sanding pumps of the fluid pack insert and two stage combination insert and plunger pump types.

About 10 per cent of the Wall Creek sand wells are now equipped with special pumps, the fluid pack type being used in wells making not more than 35 bbls. per day, while the two stage type depending upon its higher velocity flow above the standing valve for its sand free characteristics is used in wells producing over 35 bbls. of oil daily.

The remaining 90 per cent of the wells producing from the Wall Creek sands are provided with standard plunger types of pumps such as plain, insert, or Axelson makes.

Shooting

Shooting the First Wall Creek sand wells with from 20 to 40-quart shots has given such satisfactory results that this operation has been repeated ten or more times in some wells, each time with a good response in oil production.

These results have caused an increase in the amount of shooting that has been indulged in by the Midwest Refining Co. in 1928 compared with previous years and shows that the average monthly expenditure was $2,300 greater than for 1927 and 1926. Cost figures indicate that $2 worth of extra oil was returned for each dollar spent in the First sand shooting campaign.

Sand Liners

The above designation is made to distinguish between the hazardous type of liner used in place of an oil string and the type used below an oil string opposite the producing sand to exclude cavings from the pump.

The use of sand liners is growing more popular each year and by the end of 1928 a total of 327 Midwest Refining Co. wells had been so equipped, most of which were Second sand wells.

The rapid decline of First sand wells after a shot, and the resulting demand for frequent pulling jobs explains why few liners are used in this sand.

The simple type of perforation used consists of five-eighths-inch diameter holes drilled through the liner and spaced 12 inches apart lengthwise along the pipe in four rows. Opposite rows, drilled in one operation, are staggered with relation to the other two rows.

The liner is of recognized value in a dirty well, where it reduces the number of rod, tubing and clean-out jobs required, and assists a well to produce at capacity over an extended period of time. A liner cannot increase the potential capacity of a well but often improves the yield per year. As installed it is similar to a sieve, holding back the larger cavings that do no appreciable harm and allowing the injurious finer particles to come into the liner, whence they may be bailed out economically.

Pockets

The pocket in a well is that part of the hole below the producing sand. Its purpose is to provide space for the accumulation of cavings.

In theory, if a well filled with cavings at the rate of 10 feet of hole per month, and the hole in the sand was the only space the material could occupy, the well would have to be cleaned out every two months or the sand would become covered by cavings.

If a pocket could be drilled 40 feet below the sand the well would stay clean for four months and would have to be cleaned out only about every six months. During the four clean months no appreciable amount of sand would enter the pump because the top of the cavings would be below the standing valve.

In practice such benefit may or may not appear. It usually does, but in some cases a pocket is detrimental. If bentonite is encountered just below the sand it will squeeze into the hole and make the well dirtier than before deepened. If a creviced or shattered condition below the sand should be penetrated, the oil would be thiefed and waste would result. In either such cases the pocket must be plugged back.

Deepening

It is now the policy to drill through the sand when cleaning out wells. Production has been increased in many cases. If water is found and it does not increase dangerously, it is produced with the oil. The drill has found in First sand wells that fear was in many instances unwarranted. Due perhaps to the presence of the parting near the base of the sand, the production increase obtained from some First sand wells has been especially gratifying.

Antifreeze Methods

In the earlier days wells pumped direct to their tank batteries through surface lead lines. Any water that settled in the bend or low points, froze during cold weather and necessitated a shut down. Even wells in the clean oil area were susceptible due to the condensation and freezing of water vapor contained in the gas produced. As little as a quart a week of condensate—and instances of more than one barrel per day from a well are reported—will close a line in extremely cold weather.

Buried lines did not solve this problem for frost penetrated 4 feet below the surface in January, 1929, and the expense of ditching and uncovering and backfilling was too great.

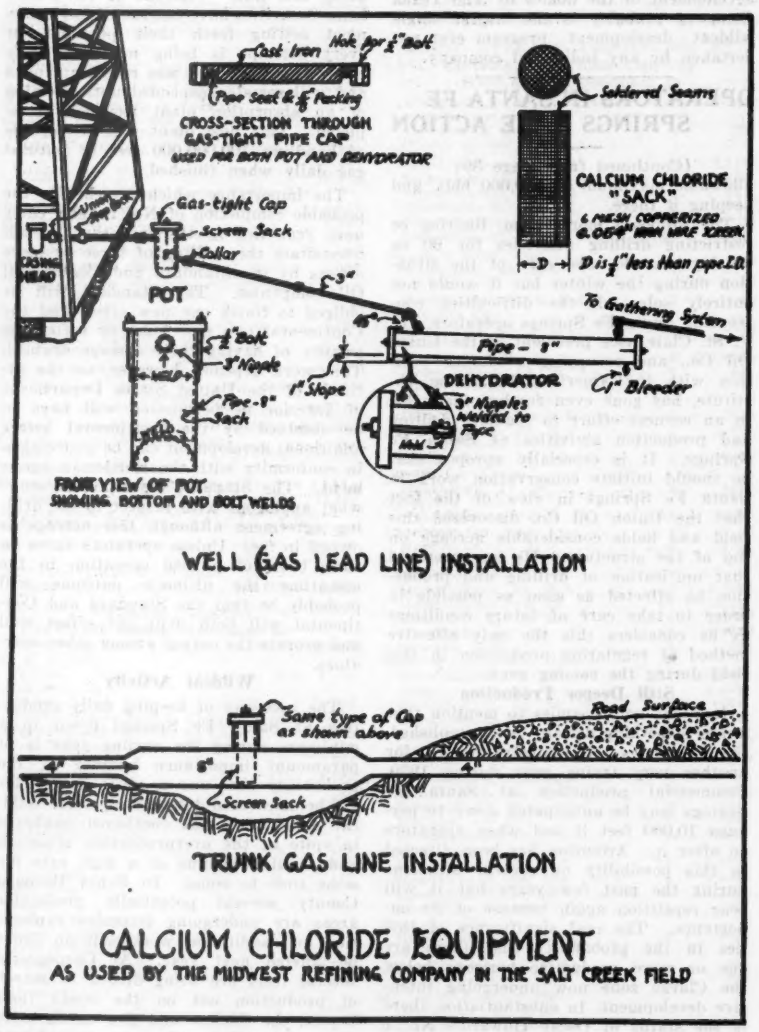
The method used by the Midwest Refining Co. is to place individual tanks at each well which method reduced the length of the lines from well to tank to about 20 feet and as they were laid on a gradient leading up to the tank the water would tend to settle back into the tubing and protect against freezing when the well stopped pumping.

The freezing of condensate in gas lead lines and trunk lines has also been greatly reduced by the use of calcium chloride. The equipment for introducing it is illustrated in sketch reproduced with this article and little explanation is thought to be needed.

Gas Line Installment

The gas line installation requires a gradient in the line between the pot and dehydrator to move onward any water condensed ahead of the latter. It is ideal if the water vapor starts to condense just as it reaches the dehydrator. The dehydrator also is set on a slight gradient, 1 inch per joint, toward the upstream end, to move the fluid to the bleeder.

The function of the calcium chloride is twofold. Its adsorptive properties tend to extract the water vapor from the gas



and its antifreeze properties prevent freezing of the condensed water.

Most satisfactory results are being had with the lubrication of alcohol in the gas supply line to the electric plant about 5 miles north of the main gas plant. The extra expense attending the use of alcohol is justified here because it is vital that the supply of fuel to the electric plant be continuous if the field is to be furnished light and power without interruption.

The delivered cost of calcium chloride is about $50 per ton. Alcohol costs between 70 and 75 cents per gallon or $29.40 to $31.50 per barrel.

Summary and Conclusions

Diligence and improved operating methods applied during 1927 and 1928 caused the yield from the First and Second Wall Creek sands to be at least 1,900,000 bbls. more than could be normally expected.

It is estimated 1,480,000 bbls. of this increase came from the Second sand and that 420,000 bbls. came from the First sand.

The Midwest Refining Co. earned and obtained the greater part of the increase or at least 1,720,000 bbls., but other companies holding edge leases on the west and east flanks also shared in the improvement.

The Midwest Refining Co.'s Second sand gas drive, in conjunction with the force of gravity, caused the greatest benefit accomplished by any single operating method.

Combined gas drive and the force of gravity cause gradual and general down dip movement of oil.

Extraordinary effort toward keeping wells in best possible condition is warranted and necessary if the full benefit from gas drive is to be obtained.

The type of clean-out job now most effective in the Second sand consists of cleaning-out to bottom as quickly and with as little water and agitation as possible.

Due to the low pressure now obtaining in the Second sand it is no longer good practice to agitate water in, or "wash" a hole when cleaning out.

Shooting was responsible for most of the First sand increase, but the increase was contributed to by deepening and the flush from new wells.

The performance of the First sand wells is largely controlled by Jamin effect, which effect most probably has caused gas drive in this sand to be a failure.

The use where warranted of line, pockets, special pumps, short lead lines and antifreeze agents, directly or indirectly yields a good profit.

The Midwest Refining Co., Continental Oil Co., Texas Production Co., and others have operated their leases with commendable efficiency and diligence.

TWO MEN KILLED IN EXPERIMENTAL STATION

(Continued from Page 41)

perimental work the next day had just been completed Friday evening at 8 o'clock when the blast occurred. The only persons who might have been able to tell with some definiteness what happened met death in the accident. Mr. Brandenthaler and Mr. Miles were on the derrick floor. Mr. Wade was in the compressor house. Mr. Holt was in the tank pit. It is believed that Mr. Brandenthaler was killed almost instantly. Mr. Miles dashed from the rig with his clothing ablaze. He died from his burns six hours later. Mr. Holt escaped from the pit with a shoulder and arm seared. Mr. Wade's left hand was burned. Mr. Brandenthaler's body was not recovered until the flames had been extinguished by Bartlesville firemen.

As nearly as can be determined at this time, the lower shell of the absorber failed and the derrick, which was completely enclosed with corrugated iron, filled with gas. The cause of ignition is not known. There was a big rent in the absorber.

"We have been unable to reconstruct with any satisfactory degree of certainty the circumstance or combination of circumstances that might have caused the explosion," said Superintendent Smith. "We hope that the official investigation will reveal this. Mr. Brandenthaler was extremely careful and accurate in all his work. We are sure there was no negligence on his part or on the part of the men helping him. Every hypothesis that we have hit upon thus far we have been obliged to abandon as untenable."

Created Plant in Which He Died

Mr. Brandenthaler was one of the best-known petroleum engineers in the United States and the experimental rig in which he lost his life was his own creation. At the time he conceived the idea of installing this adjunct to the Bartlesville station no funds were immediately available in the Bureau of Mines to defray the cost of the enterprise. Equipment houses, oil companies and other concerns interested in the progress of the petroleum industry went to his aid and provided necessary equipment. Appropriations made by the bureau since then, according to Superintendent Smith, have been used in repaying in large part the individuals and companies who provided what was needed.

Among his hundreds of friends and professional associates, Mr. Brandenthaler was affectionately known as "Brandy." He was born in Milwaukee, Wis., April 28, 1890. The family moved to Seattle, Wash., later and Mr. Brandenthaler, after completing the high school course there, graduated from the University of Washington, receiving the degree of bachelor of science in mining and geology. He did postgraduate work in geology after which he obtained employment in the mining districts of Juneau and Douglas in Alaska. Later he served as an assayer, engineer and superintendent of concentrator in the Windy Arm district of Yukon Territory. He supervised the construction of a 50-ton concentrator at Mineral Lake, Prince of Wales Island, Alaska, and later was employed in the government coal fields of Alaska. Returning to the United States, Mr. Brandenthaler was engaged as an engineer by the Sunset Copper Co., Index, Wash., and then became resident geologist for the Union Oil Co. of California. Next he was geologist for the Midway Gas Co., California, and he organized a department for the study of the existing and future supply of gas in all California fields.

Entered Bureau Service in 1925

Mr. Brandenthaler entered the service of the United States Bureau of Mines July 13, 1925, as a petroleum engineer and was stationed at Bartlesville, where he had been continuously since then. Since 1927 he had devoted most of his time to experimental work.

Reports by Mr. Brandenthaler on studies made by him were accepted as authoritative in the oil industry. He had recently completed an engineering report on the Seminole Field of Oklahoma and this report, now in process of publication by the Bureau of Mines, is to be issued soon. Other papers prepared by Mr. Brandenthaler alone or in collaboration with others include: "Effect of Gas Lift on Oil Uncertain," "Standardizing Open Flow in Natural Gas Wells," "Pressure Control of Flowing Wells" and "Problems in Estimating Gas Reserves."

Mr. Brandenthaler was active in the work of the American Institute of Mining and Metallurgical Engineers and of the Engineers' Club of Bartlesville. He was a Mason and was a member of the Acacia fraternity, a national organization admission to which is restricted to college students who are Masons. He served as a captain of engineers in the World War and was in major engagements, including St. Mihiel, Argonne and Meuse-Argonne. He was gassed and received a disability discharge at the close of the war. Besides his wife, Mrs. Lenore Brandenthaler, he leaves an adopted son.

Funeral services for Mr. Brandenthaler were conducted Tuesday forenoon of this week in the First Presbyterian Church of Bartlesville by Rev. Dr. Paul Tayne, pastor of the church, of which Mr. Brandenthaler was a member. Later in the day the body was sent to Bellingham, Wash., accompanied by a representative of the Bureau of Mines.

Mr. Miles was born in Perkins, Okla., December 1, 1902, and had joined the Bartlesville station of the Bureau of Mines February 4, 1929. He graduated at the University of Oklahoma with the degree of bachelor of science in petroleum engineering. His first work after leaving college was with the Marland Refining Co. in Ponca City, Okla. Afterwards he was with the Empire Refineries, Inc., and the Oklahoma Gas & Electric Co. He was regarded as showing promise of steady advancement in his profession. He leaves his wife. The body was taken to Perkins, where funeral and burial services were held Sunday.

Associates Shocked

Superintendent Smith and the other members of the Bartlesville station staff expressed themselves as shocked by the accident which had cost the lives of two of their fellows.

"Mr. Brandenthaler was held in the highest esteem by all his associates, not only because of his fine professional standards but because of his splendid qualities as a man," said Superintendent Smith. "He was exceptionally conscientious, a hard worker and had a genial personality. Mr. Miles, though a beginner with us, had earned our warm regard."

Superintendent Smith said no decision had been reached yet concerning rebuilding of the wrecked experimental rig. The damage was believed to have been confined to the derrick and the equipment in it. The steel tank in the pit beneath the derrick floor was believed to have been intact.

On account of the fatal accident, H. H. Power, secretary of the Mid-Continent section of the A.I.M.E., sent out a notice to members that the joint meeting in Bartlesville at which it was planned to visit the Bartlesville experiment plant had been postponed.

WHALEY COMPLIMENTS INSTITUTE'S PRESIDENT

The recent annual meeting of the American Petroleum Institute was of real benefit to the whole petroleum industry, in the opinion of George P. Whaley, president of the Vacuum Oil Co.

"In my judgment," he said, "the recent convention of the American Petroleum Institute was indeed well worth while. I am convinced that these yearly meetings, together with the group gatherings within the A. P. I. that take place from time to time as occasion warrants, are of the greatest value in that they provide medium for organized recognition and study of the problems of the industry and for co-operative corrective measures, without which there could be no effective solution, as well as for advance work leading to betterments beneficial alike to the industry itself and to the public it serves.

"I think the American Petroleum Institute is indeed fortunate in having as its president a man so endowed with the qualities of leadership and of self-sacrifice as E. B. Reeser.

"Many of the problems of the industry are complex and the solutions not easily arrived at, but through the interchange of experience and practice that comes from these organized gatherings of the members of the industry, all of whom are alike seeking constructive results, right solutions are bound eventually to emerge."

W. B. REYNOLDS DIES

Warren B. Reynolds, aged 51, general manager of the Albany district for the Standard Oil Co. of New York, died at his home in Syracuse, N. Y. He had been with the company for 27 years. At his death his district comprised New York State east of Auburn and the State of Vermont.

Producers in Foreign Countries Asked to Cut Overproduction

The committee of Oklahoma oil men appointed at a meeting of producers in Tulsa on December 12 to communicate with producers of oil in Venezuela and other foreign countries from which oil is shipped to the United States, in an effort to have them join the conservation movement inaugurated in this country, drafted the following resolution, a copy of which was sent to each of the major companies operating in the foreign fields by W. N. Davis, president of the Mid-Continent Oil & Gas Association:

The Resolution

WHEREAS, at a statewide meeting of Oklahoma oil operators held the 12th day of December, 1929, to consider the conserving of the oil resources of the State, it was resolved without opposition to apply to the Corporation Commission of Oklahoma for an order extending for a further period of ninety (90) days, beginning January 1, 1930, the present conservation measures now in force in Oklahoma, and

Whereas, at such meeting it was the unanimous sense thereof

1. That the oil producers of the United States, proceeding separately in the important oil producing States of California, Texas, Oklahoma and Kansas, which represent 88.28 per cent of the total production of the United States, are now so regulating their drilling and producing activities as to prevent irrational development and overproduction of petroleum in the United States, thereby preventing the two types of waste which are the twin obstacles to true conservation, namely: the escape of gas into the air which uneconomic practice in turn leaves oil in the ground which would be recovered under orderly and scientific methods of development and production.

2. That these constructive measures for conservation in the United States in the main are the result of voluntary action on the part of the operators concerned and these efforts may break down unless producers in Venezuela and other foreign countries adopt and apply similar conservation practices, because the problem of petroleum conservation is international and not merely national in its scope.

Now, therefore, be it resolved:

(a) That the attention of oil producers in Venezuela and other foreign countries impressively be directed to the conditions recited in this resolution.

(b) That in the interest of international conservation of petroleum which in turn will bring about the conservation of the petroleum reserves of the United States, the producers of oil in Venezuela and other foreign countries urgently be requested in their individual capacities and by such legal means as may be at their disposal, to adjust their respective drilling and producing activities to the conservation program now effective in the United States.

A WRONG CONCLUSION

The Anderson-Prichard Oil Corp., refiners of oil at Cyril, Okla., and Colorado, Tex., and large owners of leaseholds and royalties in Oklahoma and Texas, recently sold certain producing properties in the Sasakwa Field and about 5,000 acres of undeveloped leases in Oklahoma and Logan Counties in Oklahoma to the Sun Ray Oil Co. Subsequently it was reported that the Sun Ray Oil Co. had "purchased control" of the Anderson-Prichard Oil Corp. This was incorrect, the deal between the two companies having only been the transfer of the above noted properties. The Anderson-Prichard Oil Corp. owns in excess of 30,000 acres of leases and royalties in Oklahoma, Cleveland and Logan Counties and has large leasehold interests in Texas.

INCREASING PROPORTION OF OIL COMING FROM MANY MINOR POOLS

By James McIntyre

If we are to consider that our reliable reserves of crude petroleum in known fields rest not in our few major fields, but in our scattered hundreds of pools of settled or semisettled production, we may conclude we have a greater reserve of oil in the United States now than we had five years ago.

In November, 1924, there were 32 major pools in the United States—pools producing 15,000 bbls. per day or more. These major pools were producing 67.9 per cent of all the oil being brought to the surface in this country at that time. In November, 1929, there were 38 major pools, producing 15,000 or more barrels per day, but they were producing only 63 per cent of the total oil production of the country.

In November, 1924, 622,841 bbls. per day was produced in the pools outside the major pools. In November this year outside pools produced 975,328 bbls. per day.

In November, 1924, the 32 major pools produced an average of 1,317,407 bbls. per day out of a total of 1,940,248 bbls. for the whole United States. In November, 1929, 38 major pools produced an average of 1,658,248 bbls. out of a total of 2,633,576 bbls.

In the present day list of major pools are 17 that had no existence five years ago and the combined production of these more or less new producing fields was 874,048 bbls. per day last month, with some of them under curtailment rules. Five other pools that produced an aggregate of 2,001 bbls. five years ago were producing 115,850 bbls. per day last month, and two others that produced an aggregate of 17,215 bbls. per day five years ago had increased to 45,100 bbls. per day. The 14 pools that remained in the major list after five years produced last month an aggregate of 623,250 bbls. per day. Five years ago they averaged 763,379 bbls. per day. Some of them are producing more now than then. Others have declined greatly.

The 18 pools that dropped out of the major class at one time or another in the past five years have falled from a combined daily average of 554,028 bbls. five years ago to 150,350 bbls. in November this year.

Changes in Five Years

Five years has made a vast difference in the production of some of the leading fields, both in decrease and increase. Notable declines in daily production include Burbank, Okla., from 71,205 bbls. to 17,700 bbls.; Tonkawa, Okla., from 96,207 bbls. to 7,800 bbls.; Cromwell, Okla., from 47,890 bbls. to 7,600 bbls.; Papoose, Okla., from 23,490 bbls. to 3,200 bbls.; Powell, Tex., from 69,242 bbls. to 7,000 bbls. The great Smackover Field fell from 100,949 bbls. to 51,200 bbls. California, noted for the staying qualities of its oil pools, showed no such declines as given above, but production has increased in some of the fields, through deeper drilling and the discovery of production in the lower horizons. Santa Fe Springs which was producing 53,097 bbls. five years ago averaged 164,000 bbls. in November, 1929, and it was under prorstion most of the month. It could easily have averaged 200,000 bbls. per day. Long Beach produced 128,464 bbls. five years ago and in November made an average of 116,000 bbls., under curtailment. The old Barbers Hill Pool in the Texas Gulf Coast Field increased from 145 bbls. to 22,500 bbls. and the Spindletop Pool which was producing 1,288 bbls. from the upper sand five years ago was making 22,350 bbls. from deeper pays last month. The Bradford, Pa., Field had increased from 10,000 bbls. to 24,000 bbls. by means of flooding the sands with water, and the latter figure was 4,000 bbls. under the potential production of the wells in the field.

New pools in the list that had no existence in November, 1924, are Elwood-Goleta, Seal Beach and Ventura Avenue, California; Seminole City, Earlsboro, Bowlegs, Little River, St. Louis, Marshall-Lovell, Allen deep sand, and Oklahoma City, in Oklahoma; Pampa, Crane-Upton; Howard County, Pecos County, Winkler County and Joe Bruner (Salt Flats) in Texas, and the Wichita, Kans., Field.

Some of the major fields of the present day date back a quarter to a half century. The Midway-Sunset Field was opened in 1900. Spindletop, Texas, was opened the following year. The Bradford Field was opened 54 years ago.

MAJOR OIL POOLS IN NOVEMBER, 1929

(Production 15,000 bbls. or more per day)

	Nov., 1924 bbls. per day	Nov., 1929 bbls. per day
California:		
Midway-Sunset	109,037	72,500
Long Beach	128,464	116,000
Santa Fe Springs	53,097	164,000
Huntington Beach	40,591	41,500
Elk Hills	38,417	17,200
Kern River	18,113	18,400
Elwood-Goleta	none	31,000
Inglewood	100	23,000
Seal Beach	none	26,000
Ventura Avenue	none	55,000
Wyoming:		
Salt Creek	57,038	31,250
Oklahoma:		
Burbank	71,205	17,700
Bristow	32,766	15,000
Cushing-Shamrock	24,045	15,000
Allen	268	20,250
Seminole City	none	26,000
Earlsboro	none	65,000
Bowlegs	none	26,000
Little River	none	70,700
Marshall-Lovell	none	16,000
St. Louis	none	49,500
Oklahoma City	none	54,648
Texas:		
Crane-Upton	none	44,800
Howard County	none	40,900
Pecos County	none	144,800
Winkler County	none	106,000
Joe Bruner	none	33,700
Pampa	none	62,000
Holliday	38,339	17,950
Borger	200	27,750
Reagan County	7,215	17,100
Barbers Hill	145	22,500
Spindletop	1,288	22,350
Arkansas:		
Smackover	100,949	51,200
Kansas:		
Eldorado-Augusta	24,105	24,800
Greenwood	27,213	20,750
Wichita	none	22,000
Pennsylvania:		
All pools	10,000	28,000
Total 38 pools		1,658.248
Total all other pools		975,328
Total United States		2,633,576

MAJOR POOLS OF NOVEMBER, 1924, THAT HAVE DROPPED FROM LIST

	Nov., 1924 bbls. per day	Nov., 1929 bbls. per day
California:		
Torrance	45,586	13,400
Coyote	20,744	10,500
Coalinga	24,859	9,400
Montebello	16,906	9,350
Dominguez	33,767	8,450
Oklahoma:		
Tonkawa	96,207	9,050
Hewitt	17,074	7,800
Healdton	16,301	12,650
Cromwell	47,890	7,600
Papoose	23,490	3,200
Texas:		
Powell	69,242	7,000
Mexia	23.457	5,100
Burkburnett	16,598	9,200
Richland	18,125	300
Electra	18,530	11,250
Hull	15,960	10,400
Luling	32,864	10,800
North Louisiana:		
Haynesville	16,428	4,900
Total	554,028	150,350

TWO GOOD PRODUCERS IN VAN POOL CHOKED IN AWAITING STORAGE

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Dec. 16.—The Van Pool, Van Zandt County, in East Central Texas entered the list of major producing fields this week when two more high gravity producers were choked into holding down the production to a point where storage could accommodate the two new wells of high caliber.

These two wells are on the Shell Petroleum Corp.'s 25.5-acre lease, offsetting the Pure Oil Co.'s holdings, to the east on the Tunnell farm, the first well a direct east offset to the discovery well on the Jarman farm, and No. 2 Tunnell, an east offset to Pure Oil Co.'s No. 1 Thompson which is a south offset to its Jarman well. The Thompson well has been producing 10 days, averaging around 1,750 bbls. daily on a nine-sixteenths-inch choke. The last 24 hours' gauge of the well, ending at 7 a.m. today, was 1,777 bbls.

Pure Oil Co.'s No. 1 Jarman has been off production the past two days due to the company running 6⅝-inch casing. Total depth of this well, the discovery, is 2,710 feet. Last week the choke was changed from a half-inch to three-quarters-inch and the well increased from a daily average of about 265 bbls. to 1,075 bbls. showing conclusively there was plenty of oil and pressure in the hole which would come to the surface if given a chance. Gravity of this oil is testing 37.4.

Top of the pay in Shell Petroleum Corp.'s No. 1 Tunnell, the first of the two wells to be completed this week, was found from 2,635-80 feet although a broken sand was cored at 2,504 feet. Total depth of the well is 2,680 feet. It has been allowed to flow through the nine-sixteenths-inch choke, only, making 75 bbls. an hour, gauging a total of 1,805 bbls. for the last 24 hours ending at 7 a.m. today. Shell's No. 2 Tunnell, completed early Sunday morning, December 15, topped the pay at 2,620-66 feet, although the first sand was found at 2,461 feet. Total depth of this last well is 2,666 feet. The well also flowed at the rate of 75 bbls. an hour through the same size choke, gauging 1,766 bbls. the 24 hours ending at 7 a.m. today. Both of these wells ran higher than the discovery well, and about the same as the second well, No. 1 Thompson. It topped the pay at 2,630 feet and was completed at 2,670 feet.

Much Activity

Although there has been much activity in this new area since the discovery of the Van Pool, with the blocking of much acreage, many royalty deals transacted, and tentative locations made for wildcat tests, it now looks as if such activities would be multiplied several times, and the announcement of several new locations have been reported as an aftermath of the completion of these last two wells. The Van Pool will undoubtedly be held down to a minimum in development, but wildcatting no doubt will gain momentum until a few dry holes are drilled in various parts of the area. Such, of course, will have a tendency to retard the drilling of new tests, especially nearby, but in case there is another pool opened by one of the wildcats this area may look for an orgy of core testing and drilling by independents and companies.

The 10-inch line to Chandler, where the Pure Oil Co. has erected a 70-car loading rack for shipping out production from the Van Pool by tank car, will undoubtedly soon be started on to Smith's Bluff to the company's refinery, and a survey of such a line has already been reported as made, the distance running around 155 miles. Until such a line is laid, the storage now erected on Pure's tank farm, and the loading rack, cannot begin to cope with production if the four wells are allowed to flow open, but of course this will not happen for some time, as the policy of the companies operating in this pool, is to restrain overdevelopment and overproduction in this new area.

Material is moving in for a test on W. J. Reel's 134-acre farm in the S. T. Meeks Survey, Van Zandt County. The owners of this test are known as McElmurry and others. This is a wildcat. Thornton & Lauber are to drill on a 26-acre tract in the A. Carlisle Survey, about 5 miles south of the town of Canton, and a 90-day drilling contract covers a 4,000-acre block which the Petroleum Holding Corp. has taken around the Raymon Sunigas Survey in the extreme northeastern part of the county.

Humble's Operations

Approximately 9 miles north of the town of Van, the Humble Oil & Refining Co. is drilling at 1,425 feet on its core test in the C. E. Rivers Survey. This is on the 13,000-acre block taken by the Humble company about the time the Pure Oil Co. blocked up its large block around the town of Van.

The East Texas Oil Corp.'s No. 1 Kadane, over the line in Smith County, east of the Van Pool, is still shut down at 1,160 feet. Deep Rock Oil Co.'s No. 1 Freeman, in the Marvin V. Lout Survey, Smith County, is running 12½-inch casing at 110 feet. Another test for Smith County is to be made by Mr. Davis, an operator of Cameron, Tex. Location of his test is in the center of the J. N. Starnes 100-acre tract in the W. J. Allen Survey.

With the wildcats now drilling in Van Zandt, Smith and Anderson Counties, and those to be drilled on the location now reported, these three sectors will be the scene of considerable activity, with the possibility of other pools being found in this part of Texas.

The drill alone will tell the story as to how many pools are to be found in this new interesting district, but geophysical instruments, seismographs and geologists and core drill machines are working overtime trying to determine the best possible locations for the tests which are due to follow them.

Boggy Creek Well

Boggy Creek, Anderson County, added another small well in Humble Oil & Refining Co.'s No. 3-A Jones, flowing an estimated 400 bbls. daily. Humble's No. 2 Gauger, which is in a sand showing oil at 3,597 feet, has run liner to test. It is a semiwildcat and will mark an extension to the southwest if successful. With the completion of No. 3-A, No. 4-A Jones is being rigged up. No. 1-B Todd is drilling sand, lime and shale at 3,456 feet. Derricks have been completed for No. 1 Gamble and No. 1 Cooke. No. 5 Earle & Ragsdale (Cherokee County) is drilling at 700 feet.

Humble's No. 1 E. B. Birdwell, on the Posey Saline, Anderson County, approximately 8 miles to the southwest of Boggy Creek, is drilling chalk at 3,756 feet. In Cherokee County, Mid-Kansas Oil & Gas Co. is starting two tests, No. 1 Roark, E. C. Allison Survey, and No. 1 English, Thomas Quevada Survey.

Delta County Development Co.'s No. 1 Hayes, Anderson Survey, Delta County, is reaming at 1,215 feet. Killiam & Phillips' No. 1 Scramalde, Robertson County, is in sandy shale at 1,718 feet. C. M. Joiner's No. 2 Bradford, Rusk County, is coring at 1,526 feet. Magnolia Petroleum Co.'s No. 1 Duran, Lollar Survey, same county, is drilling lime below 4,010 feet.

Haley & Young's No. 1 Knight, Freestone County, still is attempting to plug off bottom water at 4,806 feet. Shell Petroleum Corp.'s Nos. 2 and 3 Coleman, Rayborn Survey, Henderson County, are drilling ahead.

At Currie, Limestone County, Haskell and associates' No. 1 Strange is in broken shale at 3,090 feet. Jensen & Baggett's No. 1 Richardson, Bridgeman Survey, Limestone County, has started drilling. C. F. Lytle's No. 2 Thompson, deep test at Mexia, Limestone County,

is perforating liner at 4,347 feet. Why Not Oil Co.'s No. 3 Rhea, Mexia, has been abandoned at 2,480 feet.

Daily Average Production

Daily average production of East Central Texas fields for the week ending December 14 was:

EAST CENTRAL TEXAS

Boggy Creek	3,300
Cedar Creek	75
Currie	385
Hill County	48
Mexia	4,974
Minerva	600
Nigger Creek	250
Powell	6,872
Richland	280
Thrall	35
Van	2,040
Wortham	955
Total	19,814
Week ending Dec. 4	18,420
Increase	1,394

GASOLINE FOR 1930 BOUGHT BY EXPORTERS

(Continued from Page 38)

will continue with about the same monthly volume that has been bought since October. The same export companies late in October bought substantial quantities of high gravity gasoline for November and December delivery and the purchases made during the past week will continue this business until the first of March.

The export business in November and December failed to strengthen a weak domestic market and prices on the U. S. Motor grade have shown a steady decline. The price developments of the past few weeks in this connection furnish another illustration of the fact that the Mid-Continent refinery gasoline market is primarily dependent on domestic outlets and export purchases cannot materially change a fundamentally weak situation.

The minor importance of export business is readily apparent when the purchases for January and February are compared with the probable production. Based on the October report of the Bureau of Mines the production of refinery gasoline will total 15,000,000 bbls. in the Mid-Continent area during January and February, which consists of Oklahoma, Kansas, Arkansas, North Louisiana and North, Central and West Texas. The 25,000,000 gallons (600,000 bbls.) purchased by exporters will thus represent only 4 per cent of the total production. This leaves 96 per cent to take care of the domestic demand and storage requirements.

Several who have made a study of this situation insist that it will be necessary for Mid-Continent refiners to curtail their runs in January and February which cover a period in which the domestic consumption of gasoline is at the lowest point of the year. Otherwise it is claimed that even lower prices than are now in effect are assured with a storage accumulation which will tend to weaken the gasoline market throughout 1930. Many refiners however take the view that curtailment of crude runs and the prevention of excessive gasoline storage is a problem for the refining industry of the entire country to solve and it is useless for the Mid-Continent group to attempt to solve it alone.

Gasoline and Naphtha

Several Oklahoma refiners as reflected in the weighted average prices published in this issue are still quoting 7¼ cents to the trade on their U. S. Motor gasoline. Monday sales at this figure were practically confined to one Oklahoma refiner. As previously explained the price on this grade ranged down to 6 cents when it was necessary to meet outside competition. In some sales no price difference was made in the 60-62 437 and 58-60 437 endpoint grades.

The higher gravity grades due primarily to the export business were in a better position. Sales of the 400 endpoint domestic were being made at 7¼ cents, 390 at 7½ and 7⅝ cents and 375 endpoint at 7¾ to 8 cents. The domestic demand for these higher gravity grades was fair. A lot of jobbers are asking for a grade which is better than the general run of 58-60 U. S. Motor gasoline. Due to the excess gasoline supply a few refiners at least are selling these better grades at a U. S. Motor price. The endpoint of this material runs as low as 410, under 110 initial with a gravity as high as 62 A.P.I.

The few naphtha manufacturers in Oklahoma report a demand sufficient to take care of their output. Prices are unchanged.

Kerosene and Distillate

With only one-fourth to one-half cent difference between the 41-43 water white grade of kerosene and the better grades of furnace oil distillate there is a close relationship between the two products as regards supply and demand. The fact that several refiners are making large quantities of high gravity gasoline both for export and domestic shipment continues to increase the cut from the crude oil available for either kerosene or distillate.

The spot demand for both products has been slow over the past few days. Sales of 38-40 gravity low cold test distillate were made at 3¾ cents, one-eighth cent under the low of last week. Prices on other grades were as low as 3½ cents. Most of the refiners were asking 4¼ to 4½ cents for 41-43 water white kerosene.

Fuel Oil and Gas Oil

Due to the fact that practically all of the Oklahoma refiners are sold up on all grades of fuel oil for prompt shipment current prices are largely nominal. These prices are the same as those effective a week ago. The gas oil demand is fair for all grades. Prices are unchanged.

Lubricants and Wax

Due in part to the end of the year approaching the demand for neutrals and bright stocks has not been as active as earlier in the month. Some of the large jobber buyers and compounders are accustomed to let their storage become depleted near the close of the year. Most of the refiners have their storage in excellent shape and no changes in prices are expected.

The wax market continues inactive. The few inquiries except routine domestic buyers are coming from exporters who are endeavoring to secure price concessions.

Late Fields

(Continued from Page 50)

Miller, in Section 1-20-2w, in the Ritz Pool, McPherson County, flowed 3,245 bbls. on the gauge of December 16, at 7 a.m., and it made 3,174 bbls. December 17, at 7 a.m. The well is flowing against a back pressure of 200 pounds, and is cutting the oil 3 per cent.

EAST CENTRAL TEXAS

FORT WORTH, Tex., Dec. 17.—Humble Oil & Refining Co.'s No. 1 Birdwell in the northwest part of the S. Bolin Survey in Anderson County went out of the chalk at around 3,813 feet and into a black shale which is apparently the Eagleford. It is now drilling at 3,850 feet in the shale.

NORTH TEXAS

FORT WORTH, Tex., Dec. 17.—Sherwood Owen's No. 1 Tweedle in Section 10, Block T, T.&P. Survey, Sterling County, had a rainbow show of oil at 1,615 feet and a stronger showing of oil from 1,628-33 feet. The owners are now running casing at 1,635 feet, the total depth. This is a wildcat located southwest of Sterling City.

LLOYD STEWART JOINS PITTSBURGH EQUITABLE

Lloyd B. Stewart

Lloyd B. Stewart, who now represents the Pittsburgh Equitable Meter Co. in Kansas, got into the natural gas industry early. During his high school days in 1916 and 1917 he worked after school hours for the Quapaw Gas Co. in Joplin, Mo., in its meter shop, cleaning and painting Westinghouse proportional and positive meters. Later on he worked in other towns as tester and repairman on meters and regulators. He attended the University of Kansas and after school hours worked for the Lawrence Gas Co. as a meter reader.

In 1925 Mr. Stewart was made superintendent of the Eureka Gas Co. in Eureka, Kans., where he installed a new distribution system. The following two years he was manager of the Vinita Fuel Co. in Vinita, Okla., leaving there to become an independent meter tester in Chanute, Kans. Later the independent companies in that section were merged into the Southern Kansas Gas Co., which eventually was taken over by the Oklahoma Natural Gas Corp. Mr. Stewart was superintendent of gas measurement during the life of the Southern Kansas Gas Co. and was made assistant division superintendent for the Oklahoma Natural Gas Corp. Mr. Stewart's father, C. D. Stewart, is widely known in the natural gas industry.

GAS IN PRODUCING ELECTRICITY

Oklahoma stood fifth among the states in October in the amount of natural gas consumed in the manufacture of electric light and power, according to the report of the United States Geological Survey. A total of 811,100,000 feet was utilized by electric light and power plants in Oklahoma during that month. Texas led all states in the amount of natural gas utilized in the manufacture of electricity with a total of 3,816,280,000 feet.

VIEW OF VENTURA AVENUE OIL FIELD IN CALIFORNIA

Producers in N. Y. And Northern Penn. Lower Crude Output

OIL CITY, Pa., Dec. 14.—The Derrick says the production of crude oil in the Allegany, N. Y., Field for the month of November was 114,030 bbls., a daily average of 3,801, which is less than half of the total for the month of October. In October the daily average was 8,311 bbls. for a total output of 257,660 bbls.

An observer in the field has been in close touch with a large number of producers in this field during the past month and believes that the lower market, together with the poor prospect of refining any great increase of the dark colored crude peculiar to Allegany Field, has caused a general let-up of drilling programs throughout the area.

An estimate is given that in the first quarter of 1930 their daily average will be 8,750 with an increase of 9,250 for the second quarter, according to this observer. They feel, however, that the average for the year will be approximately 9,400 bbls. daily.

The daily average production of the Bradford Field for November has been set at 24,000 bbls., showing a slight decrease. An estimate as to the daily average production during the first quarter of 1930 is given as 26,000 bbls. with 30,000 bbls. estimated for the second quarter.

Production in the Allegany Field next quarter is not expected to prove embarrassing in view of the plans of the Sinclair Refining Co., since their Wellsville plant should have a capacity of approximately 7,000 bbls. throughout by May 1. Vacuum is using about 1,000 bbls. daily and Tide Water 2,000 bbls., hence, the quantity of Allegany in storage could be depleted before the end of 1930.

Plans for Bradford area are not so firmly set up, not only because the lower market has interfered with many of the producers' financial schedules, but primarily on account of the water supply. The larger producers are now firmly in accord that they must have a separate supply of water beyond their lease water wells.

Considerable property has been acquired recently in low areas by other large interests and it is contemplated that many long, large water lines will be built next spring. If this work is successful, there will then be no falling off in production in late summer and fall due to dry weather and the Bradford output will not only be stabilized, but undoubtedly increased.

COLON OPERATORS

NEW YORK, Dec. 16.—Colon Development Co., Ltd., Venezuelan operating subsidiary of the Colon Oil Corp., during the week ended December 7 had eight wells under test in the Colon area, with aggregate production of 19,425 bbls. for the week, compared with 15,900 bbls. produced from five wells in the previous week.

The company reports the completion of well No. T-43, flowing 620 bbls. daily initial on a five-eighths-inch flow plug, and No. T-46, producing 450 bbls. daily on an eleven-sixteenths-inch flow plug.

COLOMBIA'S OIL POLICY

WASHINGTON, D. C., Dec. 14.—Dr. Enrique Olaya, Colombian minister, was informed in a message from the minister of industry at Bogota that his government was prepared to enter into contracts for the exploitation of oil with private companies and submit them to congress for approval at the session beginning in July.

OKLAHOMA FIELDS

(Continued from Page 77)

lerton, SE cor. NE SE, Section 19-9-6, is a cellar. Amerada Petroleum Corp. has dug the cellar for No. 1 Lasley, NE cor. NW SW, Section 19-9-6. Gypsy Oil Co. made location for No. 4 Taylor, NW cor. NW SW, Section 19-9-6. Carter Oil Co.'s No. 2 Campbell, SW cor. NW SW, Section 20-9-6, is a rig on the ground. Gypsy Oil Co. is building the rig for No. 4 Walker, SW cor. SE, Section 5-7-7. The Prairie Oil & Gas Co. is erecting the rig for No. 4 Smith, SE cor. SW, Section 5-7-7. The Prairie Oil & Gas Co. and T. B. Slick's No. 1 Harjo, NE cor. NW, Section 8-7-7, is a rig going up. Location has been made for No. 2 Harjo, SE cor. NE NW. No. 3 Harjo, NE cor. SE NW, Section 8-7-7, is also a location. The rig is being built for No. 3 Tiger, NW cor. NE, Section 8-7-7. Producers & Refiners Corp. is digging the cellar for No. 1 Harjo, SW cor. NW, Section 7-5-8. Independent Oil & Gas Co. made location for No. 1 Simedihake, SE cor. NE, Section 8-6-6. Twin State Oil Co. staked location for No. 1 Charlie, NE cor. SE SW, Section 8-6-6. Barnsdall Oil Co.'s No. 2 Lusty, NW cor. NE, Section 13-5-7, West Allen Pool, is a cellar. The Texas Company's No. 2 Lewis, SE cor. NW, Section 13-5-7, is a rig under construction.

Burke-Greis Oil Co.'s No. 2 Nevins, SW cor. SE SW, Section 32-10-6, has been completed for 170 bbls. in Hunton lime 4,085-4,142 feet, total depth 4,195 feet. Amerada Petroleum Corp.'s No. 3 Sullivan, SE cor. SW NW, Section 17-9-6, East Earlsboro Pool, made 1,710 bbls. in Wilcox sand 4,263-87 feet. Burke-Greis Oil Co.'s No. 2 Fixico, SW cor., Section 17-9-6, has been completed for 1,515 bbls. in Wilcox sand 4,214-35 feet. Gypsy Oil Co. and Devonian Oil Co.'s No. 8 Payne, SW cor. SE SE, Section 18-9-6, has been completed for 2,367 bbls. in Wilcox sand 4,236-57 feet. No. 9 Payne, SE cor. SW SE, Section 18-9-6, had Wilcox sand 4,241-63 feet and made 1,095 bbls. No. 10 Payne, SE cor., Section 18-9-6, has been completed for 485 bbls. in Wilcox sand 4,218-35 feet. Carter Oil Co.'s No. 2 Wrightsman, NE cor., Section 19-9-6, made 1,925 bbls. in Wilcox sand 4,206-14 feet. Denver Producing & Refining Co.'s No. 1 Culley, SW cor. SE SW, Section 27-7-5, is dry and abandoned at 4,345 feet. The Prairie Oil & Gas Co.'s No. 3 Calkins, NE cor. NW SW, Section 17-9-6, East Earlsboro Pool, made 300 bbls. in Wilcox sand 4,275-85 feet. Magnolia Petroleum Co.'s No. 5 Cruse, SW cor. SE SE, Section 2-7-6, Little River Pool, is dry and abandoned at 3,266 feet. Empire Oil & Refining Co. and Houston Oil Co.'s No. 1 Johnson, SE cor. SW NE, Section 3-7-6, is dry and abandoned at 3,690 feet. Magnolia Petroleum Co.'s No. 3-B Harjo, SE cor. NE NE, Section 14-7-6, is dry and abandoned at 3,341 feet. Reiter-Foster Oil Corp.'s No. 1 Robertson, SE cor. SW, Section 30-7-6, has been abandoned at 1,190 feet. Sinclair Oil & Gas Co.'s No. 8 Phillips, SW cor. SE SE, Section 5-7-7, East Little River Pool, made 685 bbls. from Wilcox sand 4,222-49 feet. Gypsy Oil Co.'s No. 2 Walker, NW cor. SW SE, Section 5-7-7, made 880 bbls. in Wilcox sand 4,213-33 feet. No. 3 Walker, SE cor. SW SE, Section 5-7-7, has been completed for 1,792 bbls. in Wilcox sand 4,202-27 feet. Skelly Oil Co.'s No. 1 Smith, NE cor. SW NW, Section 13-6-7, is dry and abandoned at 4,763 feet. Twin State Oil Co.'s No. 1 Marshall, SE cor. SW NW, Section 7-6-8, drilled to 4,709 feet and plugged back to 3,200 feet where it was completed for 40 bbls. Magnolia Petroleum Co.'s No. 2 Reed, NW cor. NE SW, Section 13-5-7, has been completed for 564 bbls. in Wilcox sand 4,294-4,300 feet. Blackwell Oil & Gas Co.'s No. 3 Fleet, SW cor. NW, Section 13-5-7, had Wilcox sand 4,200-14 feet and made 360 bbls. Barnsdall Oil Co.'s No. 1 Lusty, SW cor. NE, Section 13-5-7, West Allen Field, drilled to 4,268 feet, plugged back to 4,264 feet and made 630 bbls. Magnolia Petroleum Co.'s No. 1 Parney, NE cor. SE, Section 14-5-7, has been completed for 380 bbls. in Wilcox sand 4,262-72 feet. Mid-Continent Petroleum Corp.'s No. 4 Harjo, SE cor. NE, Section 14-5-7, made 80 bbls. in Wilcox sand 4,216-40 feet, total depth 4,335 feet.

Wagoner County

Bryan Petroleum Co. moved a machine in for No. 1 Rothammer, SE cor. SW SW, Section 1-16-15. J. E. Martin's No. 1-A Berryhill, NE cor. SE, Section 27-18-15, is dry and abandoned at 1,103 feet. Union Oil Co.'s No. 1-A McKellop, NW cor. NE NW, Section 25-18-17, has been completed for 2,500,000 feet of gas in sand 1,035-36 feet. Cherokee Public Service Co.'s No. 2 Smith, SW cor. NE, Section 36-16-17, has been abandoned at 940 feet.

PRODUCTION OF SEMINOLE POOL

Average daily production of the Seminole Area for the week ending December 11:

Little River Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Nitey	2-7-6	3	215
Amerada-Wilcox:			
Fore	35-8-6	2	306
Barnsdall:			
Cotcha	23-7-6	3	326
Hotulka	22-7-6	3	285
Walker	4-7-6	1	6
Blackwell:			
Baker	11-7-6	5	406
Nitey	35-8-6	5	216
Talley	14-7-6	4	786
Thomas	11-7-6	1	Off
Bryan-Emery:			
Carter	4-7-6	1	13
Carter:			
Cotcha	23-7-6	3	106
Alec	23-7-6	2	115
Cudjo	23-7-6	2	101
Factor	26-7-6	1	Off
Fish	36-8-6	3	270
Harjo, C.	11-7-6	3	1,665
Harjo, M.	13-7-6	4	267
Jackson	11-7-6	4	1,060
Larney, B.	26-7-6	2	166
Larney, J.	24-7-6	4	995
Lena	10-7-6	1	299
Moore	11-7-6	2	84
Tewee	14-7-6	6	572
Thomas, M.	11-7-6	1	195
Walker	24-7-6	1	1,761
Wilson	12-7-6	1	79
Champlin:			
Tewee	14-7-6	3	851
Continental:			
Cosar	36-8-6	7	664
Cosar, M.	25-8-6	1	158
Milsey	11-7-6	2	270
Empire:			
Charty	24-7-6	1	47
Coker	13-7-6	2	338
Cotcha	27-7-6	2	12
Sandlin	3-7-6	1	Off
Gypsy:			
Brown, C.	33-8-6	1	77
Brown, M.	33-8-6	1	11
Campbell	36-8-6	1	7
Conard	22-7-6	2	78
Cosar, W.	36-8-6	2	125
Cotcha	23-7-6	13	1,046
Denmark	11-7-6	2	512
Hulhoke	14-7-6	10	1,023
Nungee	1-7-6	1	Off
Patty	36-8-6	4	257
Renton	11-7-6	4	1,113
Willie	24-7-6	1	2,780
Independent:			
Carpenter	27-7-6	3	255
Davis, R.	13-7-6	7	962
Tewee	14-7-6	6	836
Williams	15-7-6	1	1,441
Garris	23-7-6	13	339
Independent and others:			
Davis	2-7-6	5	828
Reed	26-7-6	1	5
I. T. I. O.:			
Campbell	1-7-6	1	231
Dungan	35-8-6	3	223
House, M. A.	1-7-6	1	20
House, W. E.	1-7-6	1	14
House, W. E. "B"	2-7-6	4	439
Hull	22-8-6	2	308
Jackson	1-7-6	3	171
McCulla	1-7-6	2	649
Nitey	2-7-6	5	97
Phoebe, "A"	35-8-6	1	8
Phoebe, "B"	35-8-6	2	58
Soketeche	1-7-6	3	76
Magnolia:			
Cruse	33-7-6	4	436
Denby	11-7-6	4	184
Harjo, "A"	14-7-6	2	44
Harjo, "B"	14-7-6	2	140
Patty	35-8-6	4	54
Reed	22-7-6	3	307
Mid-Continent:			
Bruner	11-7-6	4	72
Eleck	23-7-6	1	12
Wadsworth	36-8-7	4	46
Pine:			
Bean	13-7-6	1	Off
Heyecha	26-8-6	7	805
Pine-Phillips:			
Patty	33-8-6	1	45
Prairie:			
Chilcoat	25-8-6	3	230
Coker	1-7-6	2	262
Gibson	14-7-6	5	654
Harris	14-7-6	4	593
House	2-7-6	4	86
Reed	13-7-6	2	409
Talley	14-7-6	5	391
Williams	15-7-6	2	51
Wood	26-7-6	3	102
Prairie-Amerada:			
Sunny	14-7-6	5	892
Prairie-Slick:			
Cudjo	26-7-6	4	422
Prod. & Ref.:			
Davis	13-7-6	1	551
Dungan	36-8-6	1	Off
Johnson	24-7-6	2	722
Moppin	24-7-6	2	126
Pure:			
Brinson	24-7-6	3	702
Cotcha	23-7-6	11	2,173
Harjo	11-7-6	4	395
Hollins	11-7-6	1	274
Reiter Foster:			
Bunyard	14-7-6	2	450
Ritter	31-7-6	1	5
Shaffer:			
McCan	33-7-6	1	37
Narcome	26-7-6	2	Off
Shell:			
Caesar	11-7-6	1	87
Glass	26-7-6	1	Off
Hotulka	23-7-6	5	201
Johnson	13-7-6	4	451
Sinclair:			
Blanton	11-7-6	1	238
Cosar	36-8-6	3	460
Haney	12-7-6	1	15
Tewee	14-7-6	2	813
Pompey	24-7-6	1	193
Skelly:			
Carl	14-7-6	2	1,218
Snowden-McSweeny:			
Tiger	13-7-6	2	35
Superior:			
Pulutka	31-8-6	1	3
Texas:			
Brooks	25-8-6	1	7
Coker	1-7-6	3	100
Janey	11-7-6	6	65
Texas-Independent:			
Hotulka	23-7-6	7	930
Hotulka, H.	22-7-6	2	140
Tidal:			
House	1-7-6	1	279
Johnson	1-7-6	1	9
Twin State:			
Lowe	25-8-6	1	27
Total		348	44,060

East Little River Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Chilcoat	4-7-7	1	840
Continental and others:			
Harrison	4-7-7	5	1,707
Gypsy:			
Payne	5-7-7	6	2,277
Walker	5-7-7	3	2,370
Magnolia:			
Reed	31-8-7	1	29
Brame	8-7-7	1	18
Wolf	20-8-7	1	12
McCulloch and others:			
Harrison	4-7-7	1	Off
Mid-Continent:			
Smith	5-7-7	13	5,946
Yarhola	9-7-7	1	1,520
Prairie:			
Smith	5-7-7	3	2,913
Prairie-Slick:			
Carr	9-7-7	1	39
Prod. & Ref.:			
Lusty	5-7-7	1	11
Sakteke	9-7-7	1	23
Thomas	5-7-7	2	395
Sinclair:			
Phillips	5-7-7	8	6,198
Texas:			
Chilcoat	4-7-7	2	600
Total		51	24,879

Carr City Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Reed	13-8-5	1	Off
Barnsdall:			
Coker	11-8-5	9	1,128
Fife	14-8-5	2	72
Barnsdall and others:			
Tulley	10-8-5	1	76
Carter			
Coker	2-8-5	2	1,470
Rogers	2-8-5	1	2,094
Empire:			
Cluck	11-8-5	13	1,923
Gypsy:			
Coker	10-8-5	1	Off
Coker, C.	2-8-5	1	813
Fife	14-8-5	1	12
I. T. I. O.:			
Simpson	10-8-5	1	Off
Tulley	10-8-5	1	6
Magnolia:			
Fee	11-8-5	3	202
Killings	14-8-5	1	2
Prairie:			
Billington	11-8-5	10	721
Mitchell	15-8-5	1	77
Sinclair:			
Bean	11-8-5	5	573
Harjo, L.	11-8-5	4	475
Total		58	9,644

Maud Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Ballard	1-8-4	1	43
Fehlig	7-8-5	1	35
Gossland	8-8-5	3	52
Gravel	1-8-4	1	10
Hallum	1-8-4	4	1,050
Smith	8-8-5	1	237
Amerada-Barnsdall:			
Wallace	17-8-5	4	175
Amerada-Hull:			
Green	20-8-5	3	69
Continental-Shell:			
Everett	18-8-5	2	25
Empire:			
Smith	8-8-5	2	502
Gypsy:			
Bourassa	7-8-5	4	55
Gossland	9-8-5	2	784
Miller	18-8-5	8	216
Independent:			
Harding	18-8-5	4	116
I. T. I. O.:			
State Land	16-8-5	1	75
Laurel O. & G.:			
Billington	18-8-5	3	120
Magnolia:			
Billington	1-8-5	4	54
Green	20-8-5	3	38
Magnolia-Gypsy:			
Smith	20-8-5	1	41
McMan:			
Roberts	9-8-5	1	308
Mid-Continent:			
Shelton	18-8-5	3	15

Company, farm—	Location	Wells	Prod.
Phillips:			
Hudson	19-8-5	3	100
Wallace	7-8-5	2	18
Pine:			
Lingerfelt	18-8-5	2	140
Smith	8-8-5	2	185
Prairie:			
Campbell	18-8-5	8	76
Jordan	9-8-5	1	15
Prairie and others:			
Villines	20-8-5	1	5
Pure:			
Lindley	18-8-5	8	177
Urbanskey	19-8-5	2	26
Wiley	8-8-5	4	599
Shell:			
Jordon	9-8-5	2	557
Sinclair:			
Bellars	19-8-5	10	438
Calvin	7-8-5	3	120
Lewis	6-8-5	2	40
Smith	9-8-5	1	210
Skelly-Lenox:			
Green	20-8-5	1	126
Skelly-Margay:			
Lingerfelt	18-8-5	4	103
Texas:			
Calvin	7-8-5	9	155
Tidal:			
Dunn	12-8-4	1	37
Everetts	18-8-5	2	32
Smith	8-8-5	1	45
Twin State:			
Colvin	7-8-5	2	71
Wilcox O. & G.:			
Smith	8-8-5	8	587
Total		137	8,032

Mission Pool

Amerada:			
Rice	5-8-6	2	142
Carter:			
Fuswa	18-8-6	3	436
Micco	8-8-6	2	106
Carter-Denver P. & R.:			
Melissa	9-8-6	1	384
Continental:			
Maines	7-8-6	4	755
Darby:			
Judy	1-8-5	1	53
Gypsy:			
Baby	6-8-6	1	4
Barkus, N.	6-8-6	10	1,999
Barkus, S.	7-8-6	1	15
Dosar	7-8-6	5	706
Hardy	7-8-6	5	296
Harjoche	7-8-6	3	5
Micco, L.	8-8-6	2	28
Mission	5-8-6	7	996
Mosar	1-8-5	4	343
Independent:			
Lawson	1-8-5	5	600
Independent-Kestler:			
Payne	7-8-6	3	812
McMahon:			
Harjo	7-8-6	2	628
Mid-Continent:			
Ripley	13-8-5	1	140
Minnehoma:			
Neal	7-8-6	4	396
Pine, W. B.:			
Harjo	6-8-6	3	840
Micco	8-8-6	1	23
Prairie:			
Crain	7-8-6	1	42
Melton	6-8-6	3	561
Micco	5-8-6	1	2
Townsend	6-8-6	2	330
Prairie-Gypsy:			
Owens	18-8-6	2	71
Prairie-Slick:			
Nelly	12-8-5	1	113
Shaffer:			
Weaver	12-8-5	3	815
Shell-Continental:			
Hearndon	7-8-6	3	584
Shell-Papoose:			
Maines	7-8-6	8	776
Sinclair:			
Hardy	7-8-6	4	631
Judy	1-8-5	1	25
Tidal:			
Nellie	12-8-5	5	1,169
Twin States:			
Hayes	8-8-6	2	731
Judy	6-8-6	2	5
Ripley	12-8-5	2	49
Total		110	15,611

Bowlegs Pool

Amerada:			
Rascoe	15-8-6	6	287
Atlantic:			
Baker	10-8-6	4	169
Fleet	23-8-6	3	89
Grayson	13-8-6	3	359
Jones "A"	16-8-6	2	18
Jones "C"	9-8-6	1	6
Barnsdall:			
McNae	28-8-6	1	14
Morrow	11-8-6	4	221
Carter:			
Bowlegs, I.	15-8-6	4	245
Burden	23-8-6	2	186
Harjoche	14-8-6	6	345
Hilly, D.	23-8-6	3	180
Jones	11-8-6	4	374
Walker	15-8-6	4	286
Wise	23-8-6	11	968
Dixie:			
Lizzy	11-8-6	1	5
Empire:			
Lacey	14-8-6	6	142
Wise	23-8-6	2	102
Gypsy:			
Cumsey	10-8-6	4	442
Grayson	13-8-6	4	434
Harjoche	10-8-6	3	147
Jones	11-8-6	1	23
Walker	15-8-6	7	585
Wise	23-8-6	2	120
I. T. I. O.:			
Barnett	24-8-6	1	41
Barnett "B"	23-8-6	1	13
Billington	22-8-6	3	249
Bowlegs	22-8-6	9	862
Davis	13-8-6	4	32
Fay	13-8-6	9	778
Goforth	15-8-6	12	830
Livingston	15-8-6	10	1,001
Lizzie	11-8-6	3	268
Walker	15-8-6	8	783
Williams	12-8-6	1	160
Wilmot	15-8-6	4	231
Work	24-8-6	1	48
Youngblood	24-8-6	1	18
Magnolia:			
Davis, B. F.	13-8-6	3	197
Davis, M.	13-8-6	1	66
Hammond	10-8-6	8	213
Rhodes	12-8-6	5	268
Vanburskirk	9-8-6	4	188
McCulloch:			
Bowlegs	22-8-6	1	13
Mid-Continent:			
Baker	10-8-6	4	134
Smith	12-8-6	6	407
Minnehoma:			
Bowlegs	15-8-6	1	11
Prairie:			
Gahagan	23-8-6	3	116
Harber	10-8-6	8	896
Jones, G.	11-8-6	3	187
Jones, N.	3-8-6	1	129
Templeton	12-8-6	4	1,344
Whitney	23-8-6	4	215
Pure:			
Reed	14-8-6	14	1,541
Strothers "D"	14-8-6	4	247
Strothers "F"	10-8-6	7	1,239
Shaffer:			
Lacey	14-8-6	3	405
Shell-Houston:			
Taylor	16-8-6	5	Off
Sinclair:			
Cumsey	10-8-6	4	700
Ellen	11-8-6	5	378
Harjo	14-8-6	3	448
Jones	9-8-6	7	125
Taylor, M.	10-8-6	4	568
Taylor, W.	10-8-6	3	412
Walker, I.	22-8-6	4	670
Texas:			
Reed	14-8-6	11	520
Tidal:			
Grayson	13-8-6	4	442
Harjoche	10-8-6	6	749
Total		295	23,889

Earlsboro Pool

Amerada:			
Anderson	15- 9-5	1	173
Cowden	4- 9-5	7	912
Rogers	3- 9-5	2	45
Atlantic-Sinclair:			
Foreman	18- 9-5	1	89
Barnsdall:			
Brown:	10- 9-5	3	616
Bruner, F.	2- 9-5	2	162
Bruner, N.	10- 9-5	1	164
Cudjc	14- 9-5	1	29
Davis, D.	11- 9-5	3	85
Davis, J.	11- 9-5	4	416
Davis, M.	11- 9-5	2	24
Gibson	9- 9-5	7	486
Hern	15- 9-5	1	Off
Ingram, J.	1- 9-5	6	184
Pack, S.	10- 9-5	4	54
Peter	10- 9-5	3	44
Sango	1- 9-5	2	557
Sobolka	15- 9-5	1	173
Sullivan	15- 9-5	1	3
Sull-Harjo	10- 9-5	2	16
Watsutka	12- 9-5	3	296
Burke-Greis:			
Wisener	6- 9-6	2	116
Burke-Red Bank:			
Mayes	1- 9-5	3	1,600
Carter:			
Cox	31-10-6	1	85
Davis, S.	13- 9-5	3	43
Gilliam	13- 9-5	2	844
James, A.	6- 9-6	3	1,183
Shepherd	6- 9-6	2	291
Continental:			
Kays	2- 9-5	2	51
Spencer	12- 9-5	4	300
Cosden:			
Anderson	13- 9-5	2	1,121
Sarber	13- 9-5	1	30
Empire:			
Barker	12- 9-5	1	19
Edmundson	3- 9-5	2	23
Empire-Amerada:			
Bullock, W.	8- 9-5	2	525
Henry	8- 9-5	1	1,002
Empire-Continental:			
Anderson	13- 9-5	2	89
Empire-Gypsy:			
Keys	6- 9-5	1	32
Gypsy:			
Bruner	10- 9-5	4	916
Carter, B.	11- 9-5	7	1,479
Earl	16- 9-5	1	10
Hunich	5- 9-5	2	861
Noble	12- 9-5	3	402
Peter	10- 9-5	1	52
Sango	1- 9-5	11	1,397
State	16- 9-5	2	129
Wisener	13- 9-5	1	87
Healdton-Independent:			
Reade	8- 9-5	4	341
Independent:			
Bruner	10- 9-5	3	79
Sullivan	10- 9-5	1	10
Independent-Darby:			
Knapp	8- 9-5	2	453
Independent-Margay:			
Gaines	11- 9-5	3	95
Magnolia:			
Bryant	9- 9-5	5	28
Cowden	4- 9-5	1	2
Dixon	4- 9-5	1	2
Dixon	12- 9-5	1	8
Edmundson	3- 9-5	1	2
Germany, M.	30- 9-5	1	6
Gillian	13- 9-5	3	1,961
Homsley	11- 9-5	6	7
Hyde	13- 9-5	2	33
Ingram	10- 9-5	1	6
Lena	10- 9-5	3	29
Seay	12- 9-6	9	201
Simpson	10- 9-5	4	192
Sparks	11- 9-5	6	83
Sullivan	12- 9-5	2	137
Mid-Continent:			
McKinley	9- 9-5	3	23
Rogers	5- 9-5	5	560
Mid-Kansas:			
Anderson	14- 9-5	1	30
Phillips:			
Dunaway	14- 9-5	1	19
Reade	8- 9-5	2	860
Prairie:			
Davis	13- 9-5	3	363
Graham, C.	3- 9-5	1	1
Graham, O.	10- 9-5	4	701
Stidham	11- 9-5	9	301
Prairie-Skelly:			
Campbell	6- 9-6	7	1,824
Prairie-Whitney:			
Harjo	24- 9-5	1	1
Shaffer:			
Clark	1- 9-5	2	170
Shell:			
Bayless	17- 9-5	1	23
Hearn	13- 9-5	1	15
Spencer	12- 9-5	2	443
Sinclair:			
Alexander	36-10-5	1	563
Foreman	18- 9-5	1	12
Sango	2- 9-5	4	426
Skelly:			
Mayes	1- 9-5	4	321
Sheppard	6- 9-6	4	1,584
Spencer	12- 9-5	1	244
Skelly-Atlantic:			
Cherry	6- 9-6	4	193
Lottie	6- 9-6	3	317
Skelly-Prairie:			
Varnum	5- 9-6	1	556
Superior:			
Ingram	1- 9-5	2	894
Songster	8- 9-5	2	1,106
Walker	2- 9-5	2	702
Superior-Shaffer:			
McKey	36-10-5	1	361
Texas:			
Anderson	2- 9-5	8	75
Brown	10- 9-5	8	78
James	6- 9-6	2	120
Rogers	5- 9-5	5	30
Wilmot	10- 9-5	6	77
Tidal:			
Walker	35-10-5	2	1,117
Watkins	9- 9-5	7	969
Twin State:			
Anderson	22- 9-5	1	6
Barker	12- 9-5	2	20
Hearn	2- 9-5	2	46
Magruder	7- 9-5	1	504
Total		296	36,570

East Earlsboro Pool

Amerada:			
Scott	19-9-6	1	640
Sullivan	17-9-6	2	2,253
Fullerton	19-9-6	1	Off
Barnsdall:			
Gilliam	13-9-5	1	93
Noble	18-9-6	4	502
Burke Greis-Red Bank:			
Jones	17-9-6	3	1,082
Carter:			
Harber	7-9-6	2	270
Wrightsman	19-9-6	1	4,005
Campbell	20-9-6	1	29
Gypsy:			
Noble, B.	18-9-6	2	1,099
Gypsy-Devonian:			
Payne	18-9-6	10	6,551
Independent:			
Fixico	20-9-6	1	Off
Magnolia:			
Anderson, A.	18-9-6	12	3,726
Anderson, D. W.	18-9-6	4	1,638
Moore	24-9-5	2	778
Panos	18-9-6	1	233
Minnehoma:			
Noe	17-9-6	3	2,163
Mid-Continent:			
McDaniels	7-9-6	1	20
Prairie:			
Baker	24-9-5	5	516
Calkins	17-9-6	3	1,526
Raitman	18-9-6	3	1,563
Wisner	18-9-6	1	7
Prod. & Ref.:			
Jefferson	19-9-6	1	69
Sinclair:			
Miller	24-9-5	1	230
Nichols	19-9-6	2	1,160
Shell:			
Hopper	19-9-6	4	101
McMan:			
Jones	20-9-6	1	59
Texas:			
Magruder	19-9-6	1	250
Tidal:			
Lassley	19-9-6	1	233
Total		78	30,807

Seminole Pool

Amerada:			
Fixico	23-9-6	2	59
Killings	23-9-6	4	228
Rentie	23-9-6	3	227
Atlantic:			
Cudjo	35-9-6	3	276
Barnsdall:			
Carter	24-9-6	6	142
Henry	14-9-6	2	303
Jones	34-9-6	4	376
Carter:			
Carter, B.	24-9-6	2	27
Carter, F.	23-9-6	3	81
Creamer	34-9-6	1	7
Cudjo, R.	35-9-6	4	88
Cudjo, W.	34-9-6	1	58
Gilliland	27-9-6	1	93
Grisso	23-9-6	4	106
Grisso, M.	13-9-6	1	181
Killing, G. F.	14-9-6	4	37
Killing, M. E.	23-9-6	12	3,261
Knapp	13-9-6	1	33
Lukes	27-9-6	5	740
Pounder	34-9-6	2	228
Simpson	35-9-6	2	100
Strothers	34-9-6	4	340
Vierson	34-9-6	1	22
Carter and others:			
Sanford, C.	16-9-6	1	160
Wisner, C.	16-9-6	1	71
Darby:			
Carter, J.	24-9-6	4	166
Fixico	26-9-6	7	1,077
Harjo, D.	25-9-6	1	25
Harjo, T.	23-9-6	3	43
Empire:			
Gross	23-9-6	1	50
Wilson	34-9-6	2	181
Gypsy:			
Butler	35-9-6	4	276
Carter	34-9-6	8	677
Cudjo, T.	34-9-6	4	509
Fixico	26-9-6	7	66
Harjo	26-9-6	3	323
Wolfe	26-9-6	4	405
Independent:			
Fixico, P.	23-9-6	3	381
Harjo	25-9-6	2	18
Butler	35-9-6	3	420
Independent-Garland:			
Fixico, T.	23-9-6	5	157
Independent-Inter-Ocean:			
Jones	26-9-6	1	26
I. T. I. O.:			
Allen	26-9-6	2	28
Bowlegs	26-9-6	12	1,565
Goodin	23-9-6	3	113
Harjo	23-9-6	3	35
James	23-9-6	2	49
Reed	23-9-6	1	8
Kingwood-Shell:			
Harjo	22-9-6	3	296
Magnolia:			
Boren	2-8-6	1	3
Franks	25-9-6	3	121
Mid-Continent:			
Rentie	14-9-6	9	221
Tayeche	24-9-6	5	116
Phillips:			
Strothers	27-9-6	2	59
Prairie:			
Cudjo, R.	35-9-6	3	136
Franks	35-9-6	6	463
Giblet	35-9-6	2	519
Gross	35-9-6	5	16
Mason	35-9-6	1	36
Spencer	13-9-6	1	4
Strothers	27-9-6	5	881
Tiger	10-8-6	1	21
Pure:			
Strothers	26-9-6	17	3,066
Strothers "B"	36-9-6	4	216
Strothers "C"	34-9-6	1	270
Shell:			
Harber	22-9-6	1	91
Lasley	23-9-6	2	40
Sinclair:			
Carter, J.	13-9-6	2	15
Cudjo "A"	35-9-6	6	278
Cudjo "B"	35-9-6	4	365
Dixey	22-9-6	2	334
Fixico	35-9-6	4	415
Superior:			
Cudjo, B.	35-9-6	4	77
Noble	15-9-6	1	1
Texas:			
Mayhue	14-9-6	2	458
Strothers	3-8-6	2	33
Turman:			
Cudjo	35-9-6	4	491
Grisso	35-9-6	1	176
Jones	34-9-6	4	570
Total		273	23,817

East Seminole Pool

Barnsdall:			
Keypaya	7-9-7	1	14
Continental:			
Boring	17-9-7	1	45
Johnson	18-9-7	3	1,598
Continental-Sinclair:			
Perry	18-9-7	2	73
Devonian:			
Harjo	18-9-7	1	8
Gypsy:			
Harjo	18-9-7	2	137
Magnolia:			
Drewery	18-9-7	2	17
Prairie:			
Stubbs	18-9-7	3	290
Shaffer:			
Hangler	19-9-7	1	17
Sinclair:			
Coody, B.	18-9-7	3	320
Coody, D.	17-9-7	1	23
Johnson, G.	18-9-7	1	195
Johnson "B"	18-9-7	1	55
Thompson "B"	18-9-7	1	210
Sinclair-Continental:			
Warrior, J.	17-9-7	2	40
Sinclair-Gypsy:			
Okfuskee	18-9-7	1	145
Sinclair-Phillips:			
Warrior, S.	17-9-7	1	50
Total		28	3,897

Searight Pool

Amerada:			
Johnson	4- 9-6	1	16
Nicey	3- 9-6	1	1
Strothers	3- 9-6	2	133
Barnsdall:			
Jackson	5- 9-6	2	16
Johnson	22-10-6	1	9
Burke-Greis et al:			
Nevins	32-10-6	1	811
Varnum	32-10-6	1	249
Carter:			
Davis	4- 9-6	2	141
Frazier	3- 9-6	5	186
Kiker	2- 9-6	1	17
Mandler	2- 9-6	2	6
Scott	26-10-6	1	9
Amerada (Comm)	11- 9-6	1	12
I.T.I.O. (Comm)	11- 9-6	1	221
Mayhue (Comm)	11- 9-6	1	1,008
McMan (Comm)	11- 9-6	1	426
Skiff (Comm)	10- 9-6	1	25
Slick (Comm)	11- 9-6	2	352
Stewart (Comm)	10- 9-6	1	170
Strothers (Comm)	11- 9-6	2	645
Gypsy:			
Cudjo	4- 9-6	3	449
Nevins	32-10-6	2	283
Saloche	31-10-6	1	167
Magnolia:			
Varnum	32-10-6	3	33
Varnum, W. F.	5- 9-6	1	417
Mid-Continent:			
Grayson	34-10-6	4	13
Saloche	33-10-6	5	260
Mid-Homa Okla:			
Nevins	32-10-6	4	540

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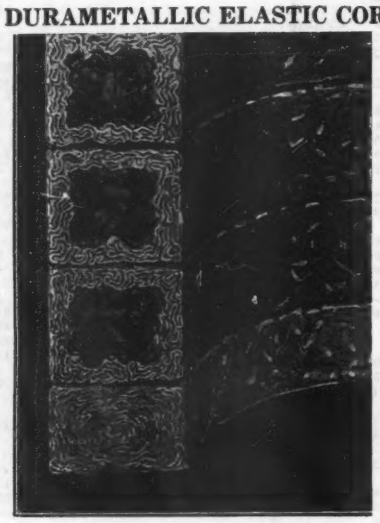

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Company, farm—	Location	Wells	Prod.
Papoose:			
Marks	32-10-6	1	211
Pine, W. B.:			
Lulu	4- 9-6	1	15
Prairie:			
Cannon	33-10-6	1	1
Carter, J.	10- 9-6	1	2
Hauck	33-10-6	1	3
Hurford	32-10-6	1	15
Kinkaid	33-10-6	2	42
Welmer	22-10-6	1	14
Pure:			
Aldridge	3- 9-6	3	576
Shell:			
Crump	32-10-6	1	Off
Strothers	3- 9-6	4	151
Sinclair:			
Polly	3- 9-6	4	1,128
Superior:			
Varnum	4- 9-6	1	17
Texas:			
Fleet	4- 9-6	1	17
Twin State:			
Varnum	4- 9-6	2	90
Wilcox:			
Chupco	4- 9-6	6	207
Total		85	9,215

PRODUCTION OF ST. LOUIS POOL

Average daily production for the St. Louis Pool for the week ending December 11:

St. Louis Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Richardson	16-7-4	1	Off
Atlantic and others:			
Bass	9-7-4	1	157
Bewley	9-7-4	1	23
Burke	16-7-4	3	473
Milburn	15-7-4	1	85
Stanuridge	10-7-4	1	79
Barnsdall:			
Stahl	30-7-5	3	287
Blackwell:			
Cherry	25-7-4	3	430
Lewis	24-7-4	2	110
Carter:			
McGee	26-7-4	1	15
Darby:			
Floyd	22-7-4	1	Off
Bettis	21-7-4	1	200
Harber	23-7-4	1	30
Nixon	9-7-4	2	160
Youngblood	16-7-4	4	610
Darby-Atlantic:			
Cardwell	15-7-4	1	139
Empire:			
Bettis	17-7-4	1	80
Jackson	36-8-4	1	210
State	36-7-4	1	109
Gypsy:			
Bruno	25-7-4	3	62
Collins	25-7-4	4	445
Dodson	26-7-4	4	63
Green	17-7-4	6	4,742
Johnson	29-7-5	1	35
LeClair	23-7-4	4	1,002
Rosemond	26-7-4	4	227
Stahl	30-7-5	5	88
Gypsy and others:			
Johnson, W.	7-7-4	1	Off
Healdton:			
Hines	17-7-4	1	50
Home Gas Co.:			
St. Louis	14-7-4	1	257
Houston Oil:			
Wyatt	17-7-4	3	893
Independent:			
Barrow	1-7-4	3	425
Blandin	30-7-5	5	1,065
Youts	19-7-5	8	2,644
Independent-Darby:			
Brown	14-7-4	2	10
Carson	23-7-4	1	Off
Davis	15-7-4	1	43
Freid	23-7-4	2	60
Jordon	10-7-4	1	22
LeClair	23-7-4	1	43
Pappan	16-7-4	3	451
Pillar	15-7-4	1	7
Standridge	14-7-4	3	25
Wallace	14-7-4	4	65
Independent and others:			
Hambry	14-7-4	2	17
Was	30-7-5	1	30
Independent-Mid-Kansas:			
Weldfelt	2-7-4	1	764
Independent-Range:			
Null	35-8-4	1	266
Independent-Skelly:			
James	16-7-4	2	142
Independent-Westland:			
Booze	9-7-4	1	33
Rhodd	16-7-4	3	382
I. T. I. O.:			
McGee	26-7-4	1	148
Brandenburg	35-8-4	1	1,065
Shobe	35-8-4	3	291
Weams	21-7-5	1	65
Weldfelt	2-7-4	2	1,445
I. T. I. O.-Sinclair:			
Woodard	18-7-5	1	42
Inter-Ocean:			
Coley	24-7-4	1	15
McGee	23-7-4	5	182
Irvin Marten:			
Kelly	2-7-4	3	415
Magnolia:			
Anderson	1-7-4	1	12
Banta	14-7-4	3	201
Billington, C.	11-7-4	1	7
Billington, E.	22-7-4	1	721
Brandenburg	18-7-5	5	777
Bullock	18-7-5	1	Off
Caudle	13-7-4	2	73
Cherry "A"	25-7-4	5	248
Cherry "B"	26-7-4	3	14
Clour	11-7-4	2	13
Davis, C. E.	24-7-4	1	8
Davis, Frank	15-7-4	2	8
Engle	34-7-4	1	49
Fyke, George "A"	20-7-5	1	178
Fyke, George "B"	20-7-5	2	295
Fyke, L. L.	20-7-5	1	9
Fyke, Tulle "A"	20-7-5	1	63
Fyke, Tulle "B"	20-7-5	2	346
Fyke, Tulle "C"	20-7-5	1	31
Fyke, Tulle "D"	20-7-5	2	205
Fyke, Tulle "E"	28-7-5	1	10
Green, B. M.	13-7-4	1	7
Green, Lulla	13-7-4	1	61
Guinn	20-7-5	1	20
Karden	12-7-4	2	154
Hatcock, C. D.	11-7-4	1	8
Hatcock, Lee	11-7-4	1	65
Harper, J. J.	19-7-5	1	6
Harper, James	19-7-5	2	11
Hembree	19-7-5	4	29
Hilton, J.	22-7-4	1	1,157
Jones, "A"	18-7-4	1	74
Jones, M. A.	8-7-4	1	11
Jordan	13-7-4	1	109
Kiner	17-7-5	1	3
Latimer	17-7-4	2	142
Louis, J. L.	15-7-4	1	8
Lynn, D.	21-7-4	1	123
Lynn, F.	21-7-4	1	188
Mull	15-7-4	1	Off
Nicklass	31-7-5	2	58
Nona	11-7-4	1	33
Richardson	15-7-4	2	468
Risenhoover	14-7-4	4	13
Robbins, J. M.	15-7-4	4	160
Robbins, Pearl	15-7-4	1	33
Rowe, I.	18-7-5	1	13
Rowe, M.	18-7-5	1	5
Shipshewano	19-7-5	4	49
Singletary, D.	15-7-4	1	Off
Singletary, F.	23-7-4	3	16
Singletary, T.	14-7-4	3	29
Tartar	15-7-4	2	1,242
Vieux, F.	13-7-4	1	9
Vieux, N.	13-7-4	1	Off
White, Roy	20-7-5	1	8
Wilborn, Mary	24-7-4	2	341
Wilborn, S. A.	24-7-4	6	630
Williamette	11-7-4	1	16
Youts, Charles	20-7-5	5	348
Youts, C. A.	19-7-5	4	329
Youts, H. E.	20-7-5	7	904
Magnolia-Pierce:			
Hubanks	17-7-4	2	762
McCulloch and others:			
Bruno	25-7-4	5	905
Smith	25-7-4	6	727
Mid-Continent:			
Decker	8-7-4	1	50
Robbins	9-7-4	2	20
Quinn	20-7-5	1	15
Mid-Kansas:			
Getzelman	25-7-4	4	660
Lunay	30-7-5	3	355
Minnehoma			
Simms	16-7-4	3	198
Packard:			
Church	29-7-5	1	345
Panther:			
Town Lot	14-7-4	1	28
Town Lot	23-7-4	1	30
Phillips:			
Cherry	25-7-4	2	105
Grace	2-7-4	1	42
Lydick	24-7-4	1	15
Stahl	30-7-5	4	223
Prairie:			
Desmond	25-7-4	4	72
Bodkins	26-8-4	1	33
Ellison	25-7-4	4	260
Gammon	30-7-5	8	1,932
Hembree, A. O.	19-7-5	4	632
Hembree	18-7-5	2	11
Linn	30-7-5	4	367
Smith	30-7-5	3	35
Wolf	29-7-5	4	953
Younts	19-7-5	4	145
Prairie and others:			
Davis	18-7-5	4	51
Nesbit	18-7-5	2	166
Pugh	7-7-5	1	15
Prairie-Shaff-Independent:			
Cummings	17-7-4	2	133
Reagan	17-7-4	3	1,681
Rice	17-7-4	2	58
Pure:			
Brandenburg	21-7-4	1	415
Dodson	26-7-4	2	123
Thomas	26-7-4	4	1,051
Thrilkill	19-7-5	1	47
Tolen	1-7-4	1	83
Shaffer O. & R.:			
Cherry	23-7-4	4	196
Tolen	30-7-5	4	379
Shell:			
Hines	22-7-4	1	173
Smith	21-7-5	1	52
Stahl	30-7-5	1	42
Younts	28-7-5	1	20
Sinclair:			
Blandin	24-7-4	13	1,420
Brandenburg	7-7-5	3	530
Bruno	28-7-4	2	320
Coley	24-7-4	2	355
Gilbreath	25-7-4	2	615
M-Qua-Ka	11-7-4	1	75
Nadash	29-7-5	4	610
Neeley	25-7-4	4	470
Neeley "B"	25-7-4	2	660
Nesbit	18-7-5	8	1,895
O-Kitchee	19-7-5	7	506
Sinclair and others:			
Kelly "A"	2-7-4	2	230
Skelly:			
Decker	16-7-4	2	565
Slick-W. Eagle:			
Latimer	16-7-4	3	434
Superior:			
Caudle	13-7-4	2	29
Jackson	36-8-4	1	41
Texas:			
Cherry	25-7-4	4	340
Zoeller	30-7-5	1	23
Tidal:			
Smith	26-7-4	1	Off
Warner-Quinlan:			
Light	18-7-4	1	59
Westheimer-Daube:			
Freid	24-7-4	5	395
Garrett	23-7-4	2	40
Westheimer-Daube-Gypsy:			
McGee	23-7-4	5	68
Wyatt:			
Fee	10-7-4	1	23
Smith	26-7-4	1	30
Total		441	54,713

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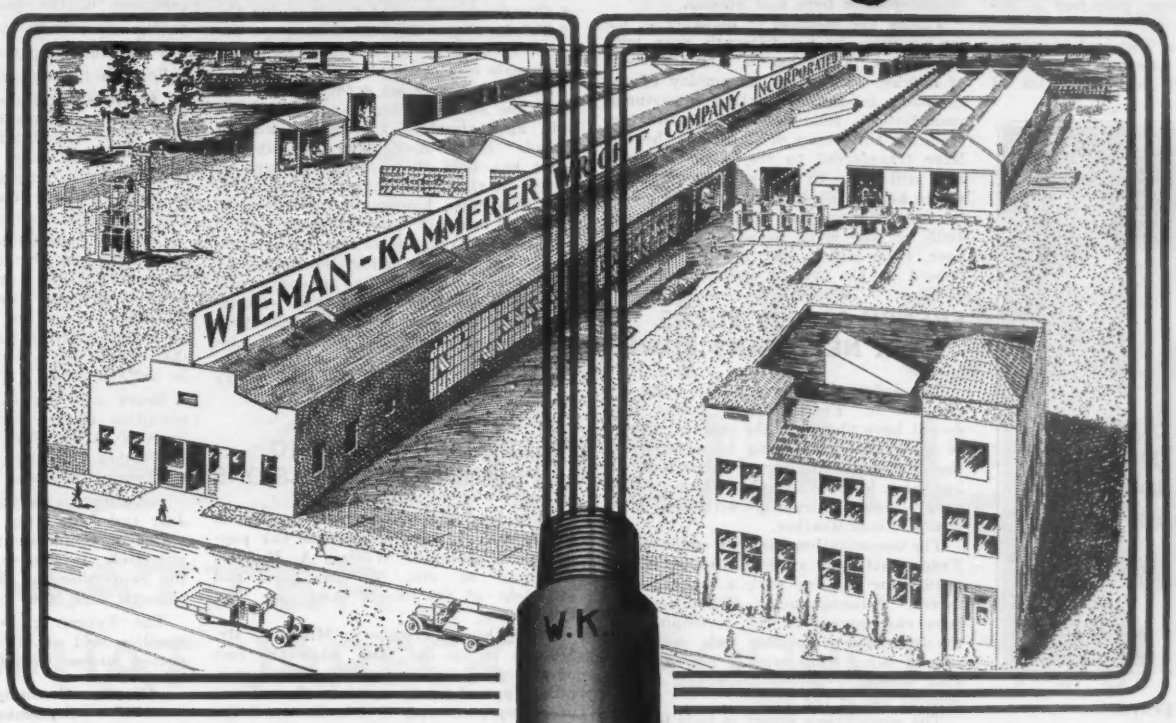
IS THE NATURAL RESULT OF

A Successful Background



Drills a straighter full size hole with less power and reduces twist-offs

[No threads to become damaged . . . No bolts or nuts to bother with . . . No time lost in changing bits]

The success of the first W.K.W. and the later improved models is evidenced by the rapid growth of the W.K.W. organization. Only fifteen men were employed in 1926 and today the company ranks with the world's leading oil tool manufacturers.

Actually drills more hole and cuts less formation-Cuts a core and then destroys it

["The inside blades easily dispose of the core..which loses its resistance owing to isolation from rest of formation"]

Patents Pending

"GOES STRAIGHT THROUGH THE EARTH"

WIEMAN-KAMMERER-WRIGHT CO., INC.

Export Office: 150 BROADWAY, NEW YORK

Hollydale [Los Angeles Co] California

DEALERS AND DISTRIBUTORS EVERYWHERE

Of Interest to Sales Departments

Announce Changes In Sales Heads of Associated Company

Announcement of important changes in the personnel of the Associated Oil Co., of interest both to the general public and to organizations connected with the oil industry, was made here recently by William F. Humphreys, president of the company.

B. I. Graves has been advanced to the post of general sales manager, with jurisdiction over all sales activities of

B. I. Graves

the company. P. E. Allen has been appointed manager of domestic sales with jurisdiction over domestic sales of white oils and lubricating oils, and supervision of the advertising department. F. M. Rowles, formerly manager of domestic sales of white oils and lubricating oils,

P. E. Allen

has resigned to devote himself to activities outside of the oil industry.

Graves has been with Associated for 20 years, having started in the pipe line department as assistant chief clerk. He later filled various positions in the auditing, personnel and sales department, and in 1922 went to China as general Oriental representative for Associated, which position he filled for four years. In 1926, he was made assistant to the vice president in charge of sales, and since then has been in charge of sales work, becoming manager of fuel oil cargo export sales in 1928. As a result, he is thoroughly familiar with both the wholesale and retail sales organization of the company both here and abroad.

Taking the position of manager of domestic sales in his fifteenth year with Associated, Allen has a similar record of service. Entering the employ of the company in the accounting department immediately following his graduation from the University of California, he was later transferred to the Avon refinery, and still later to the sales department, where he has filled various positions both in the field and in general office. In 1925 he was made assistant sales manager, from which post he has been advanced to his present position.

FRENCH SAFETY FUELS LACK NECESSARY POWER

The safety fuels which are being developed in France lack power and do not have pickup of the ordinary grades of motor fuel according to a report of the National Advisory Committee. It has also been found that there is tendency toward turgidity with heavy deposits in cold weather.

The investigation has been conducted in France with the view of finding a substitute for gasoline with a higher safety factor. Although many difficulties have been encountered in the development of the fuels, the committee feels that progress is being made with a new type engine necessary before there can be any general use of the fuels.

The committee's report in part follows:

"The vapors emitted by safety fuels are much less abundant and spread less rapidly than gasoline vapors. If they catch fire in spite of precautions, the resulting conflagrations are less violent and more localized. Moreover, the consequences of such conflagrations are not so terrible, even if the flames spread far enough to reach the principal fuel reserve. In the case of liquid gasoline with a burning point far below that of the surrounding temperature, the ignition of this reserve is instantaneous. In general, it is even violent enough to cause actual explosions. In the case of fuels, however, with a burning point of the order of 30 to 40° C. the temperature of the principal fuel reserve may reasonably be expected to lie considerably below the danger point. If a fire is started under these conditions it will generally spread slowly or go out of itself.

New Engine Needed

"No engines have yet been developed which burn heavy fuels with the utmost degree of efficiency and progress in this field will be greatly retarded until a satisfactory engine of this type is developed.

"Until the above problems are solved aviation engines must continue to use gasoline. Therefore, efforts should be first directed toward reducing the dangers inherent in this fuel. Two conditions are necessary to bring about the burning of the fuel. It must come into contact with the surrounding air and be vaporized. The air, thus carbureted, must come into contact with something hot enough to ignite it. Fire hazards will be reduced by avoiding these two conditions. If one of them cannot be avoided, one should seek to prevent coincidence with the other. In normal flight, dangerous mixtures of gases are produced by leakage from the tanks or fuel pipes, or by the poor functioning of the carburetors."

MAY SECURE REFUNDS ON BENZOL TAX COLLECTIONS

COLUMBUS, Ohio, Dec. 12.—The Supreme Court of Ohio now has under consideration a case involving the right of two companies to make deductions from the gasoline tax on account of taxes paid on benzol several years ago when that product was not taxable. The plaintiffs in the case are the Canfield Oil Co. of Cleveland, Ohio, and the Benoline Co. of Toledo, Ohio. The case before the supreme court is on appeal from the court of appeals of Cuyahoga County.

The two companies several years ago when the state gasoline tax was 2 cents paid approximately $30,000 in tax on benzol. Since that time the supreme court has held that under the law effective at that time benzol was not taxable. The State, however, refused to make a refund and it was brought to the attention of the courts when the companies attempted to deduct the benzol tax from their regular gasoline tax payments. The lower courts have held that the companies had no right to deduct the payments which they claim are due as refunds. Benzol is now taxable in the State at the same rate as the regular grades of gasoline.

FIELD MEN NEEDED TO PREVENT TAX EVASIONS

Field men are necessary if a state is to prevent evasions of gasoline tax payments, according to William A. McAtee, inspector of oils for Missouri and president of the North American Tax Conference.

Citing his experience in Missouri, Mr. McAtee points out that, while the cost of detecting and prosecuting evasions is often approximately equal to the amount of money recovered, it nevertheless is desirable because it tends to prevent a more general evasion of the law. Where the tax-collecting machinery is confined to an office force, Mr. McAtee states it is impossible to detect many of the evasions which a few companies have been able to perfect.

One of the most common methods of evasions, Mr. McAtee states, is a partial payment of the tax due. The individual or company concerned promptly pays a part of the tax when due hoping that the State will fail to discover that no payment was paid on the remainder of the gasoline sold in the State.

The border problem was also serious in the early history of the gasoline tax, according to Mr. McAtee. The states have been able to partially cope with this practice through exchange of information whereby it is possible to check gasoline shipments. A uniform tax rate throughout the United States and elimination of city gasoline taxes will help in solving this evil.

RICHFIELD BUYS TANKERS

The Richfield Oil Co. of California has just purchased two additional tankers through the Edward P. Farley Co., New York, according to C. M. Fuller, president of Richfield. The acquisitions are the Agwiworld, 10,600 dead weight tons, built at Chester, Pa., in 1920, and the Huguenot, 10,307 tons, built at Sparrows Point, Md., in 1919.

With these purchases, Richfield owns nine tankers, having a total capacity of 628,000 bbls., as well as several barges and other equipment which are used primarily between Los Angeles and San Francisco. The last tankers purchased will be used in service between Richfield's California refineries and east coast terminals.

Gain in September Motor Fuel Demand Less Than Average

Gasoline consumption in 39 states for the month of September, 1929, as indicated by reports made by wholesalers and dealers in the various states under provision of the gasoline tax laws or gasoline inspection laws totaled 868,167,000 gallons compared with 785,527,000 gallons in September, 1928, an increase of 82,640,000 gallons or 10.5 per cent. Daily average consumption for September, 1929, was 28,939,000 gallons, compared with a daily average of 32,214,000 gallons in August, 1929, a decrease in daily average during September of 10.2 per cent.

Gasoline consumption in these 39 states, for the nine months ending with September, 1929, amounted to 6,952,936,000 gallons, compared with 6,162,654,000 gallons for the corresponding period of 1928, an increase of 790,282,000 gallons, or a 13.2 per cent increase in daily average.

Below are shown the quarterly consumption figures for the periods ended June 30, 1929, September 30. 1929, and September 30, 1928, for the states of California, Montana and Pennsylvania.

Consumption during April, May, June, July and June, July and August for the states of Connecticut and Maryland respectively, is also shown, as are figures for September for the states of Massachusetts and New York.

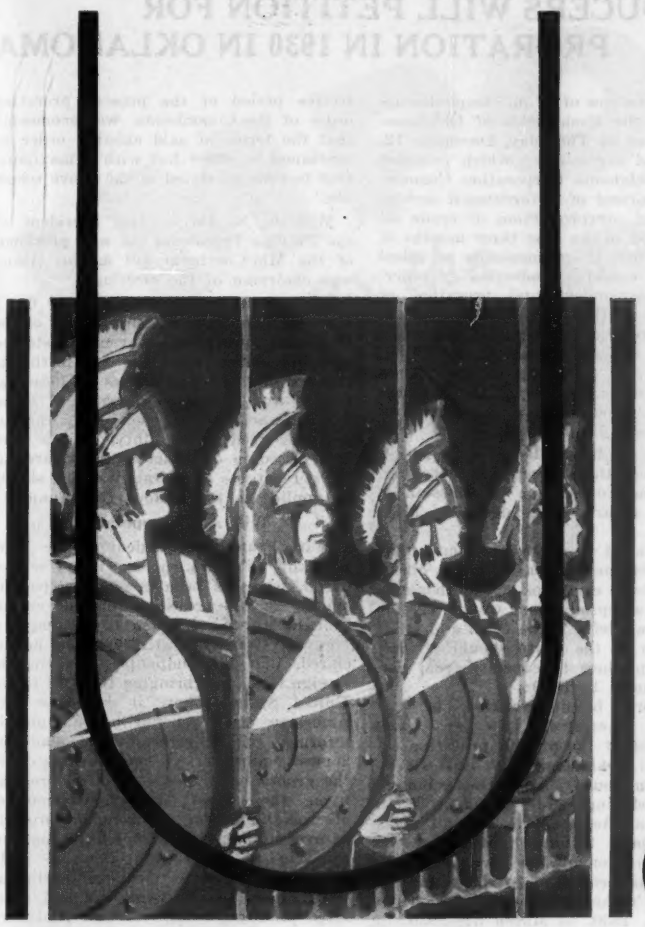
The figures giving the quantity of gasoline sold or offered for sale, as reported under various laws follow:

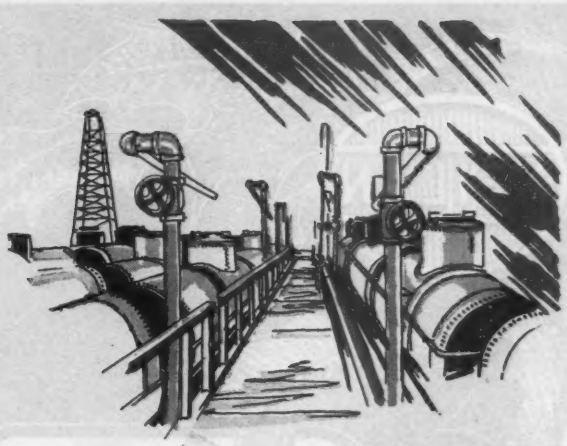
Gasoline Consumption By States, September, 1929

	Month of	
	Sept., 1929 Gallons	Sept., 1928 Gallons
Alabama	15,765,000	14,488,000
Arizona	5,479,000	4,331,000
Arkansas	13,538,000	16,331,000
Colorado	14,506,000	12,568,000
Delaware	3,049,000	3,025,000
Florida	15,552,000	15,837,000
Georgia	15,411,000	16,635,000
Idaho	6,139,000	5,592,000
Indiana	40,545,000	37,690,000
Iowa	33,354,000	29,252,000
Kansas	34,278,000	30,776,000
Kentucky	14,990,000	12,500,000
Louisiana	16,103,000	13,867,000
Maine	11,445,000	9,689,000
Michigan	75,252,000	67,076,000
Minnesota	35,389,000	31,149,000
Mississippi	*11,824,000	11,316,000
Missouri	36,984,000	33,091,000
Nebraska	18,150,000	17,777,000
Nevada	1,878,000	1,523,000
New Hampshire	6,399,000	5,391,000
New Jersey	44,111,000	38,862,000
New Mexico	4,506,000	3,441,000
North Carolina	24,091,000	21,623,000
North Dakota	13,788,000	17,744,000
Ohio	94,846,000	82,733,000
Oklahoma	28,408,000	26,374,000
Oregon	15,903,000	14,617,000
Rhode Island	7,840,000	6,004,000
South Dakota	11,107,000	10,507,000
Tennessee	19,179,000	15,802,000
Texas	67,321,000	59,659,000
Utah	5,440,000	4,756,000
Vermont	4,962,000	4,505,000
Virginia	19,568,000	16,217,000
Washington	23,989,000	21,843,000
West Virginia	12,826,000	11,090,000
Wisconsin	40,875,000	37,530,000
Wyoming	3,377,000	3,266,000
Total	868,167,000	785,527,000
Daily average	28,939,000	26,184,000
Increase over previous year:		
Amount of increase	82,640,000	.....
Percentage increase in daily average	10.5%	.....
Massachusetts	45,910,000	.....
New York	128,398,000	.....

*Estimated.

	Quarter End	
	Sept. 30, 1929	Sept. 30, 1928
California	334,419,000	287,922,000
Montana	27,564,000	25,980,000
Pennsylvania	253,940,000	202,900,000
	May	June
Connecticut	18,630,000	19,592,000
Maryland	.....	14,775,000





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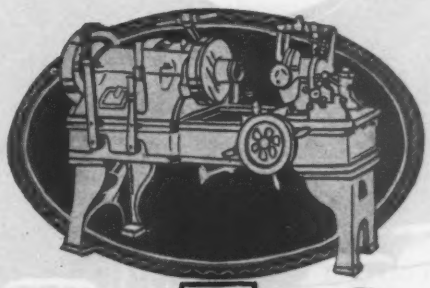
NO MATTER WHAT JARECKI PRODUCT YOU BUY

It makes no difference whether it be a valve, a fitting or a working barrel—if you buy it from JARECKI, you know that it is made for maximum service.... Here only one standard of quality is tolerated—the highest.... It is on this basis that JARECKI has builded its business—in this policy that an ever-growing number of customers are finding complete buying satisfaction.... There is a JARECKI store near you.

.... JARECKI Pipe Threading Machines are available in 22 styles with a size range of ¼ in. to 12 in.... More than 50% of JARECKI Pipe Threading business is in *repeat orders*. ... Designed in every detail to give long, trouble-free service.

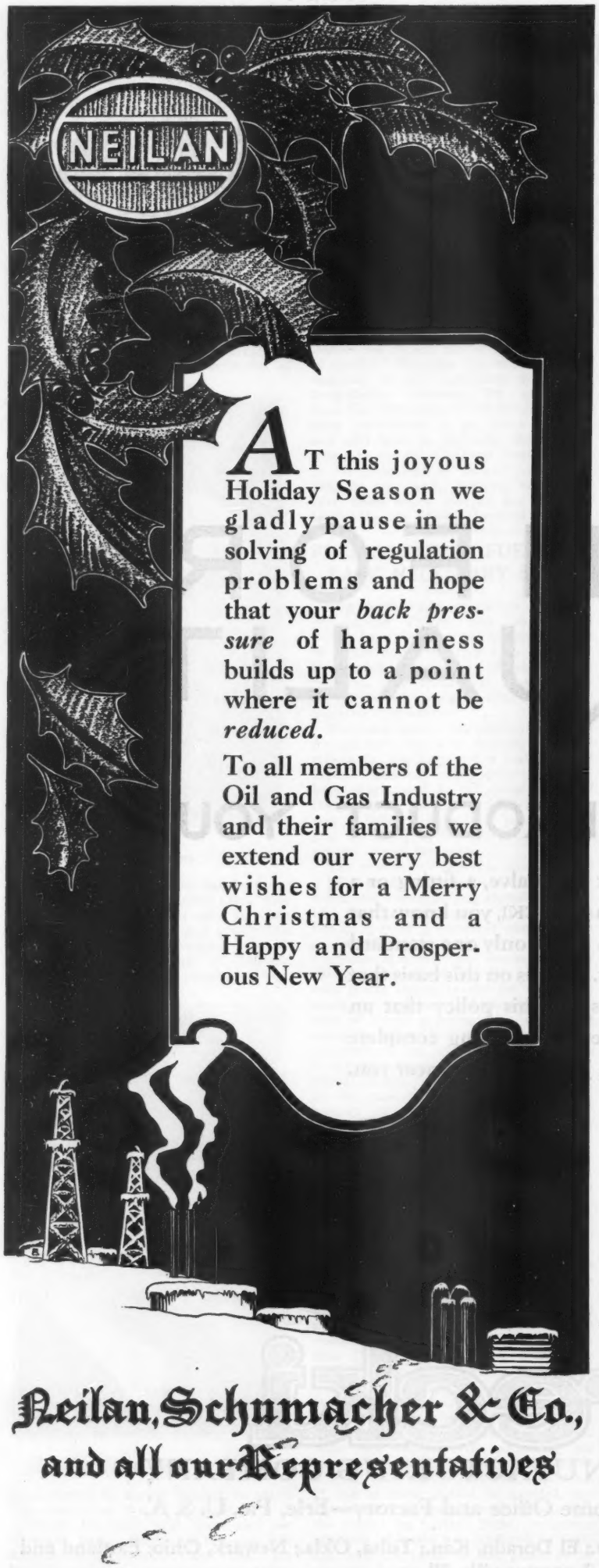


Branch Stores at all important places in the Oil Country

Jarecki MANUFACTURING COMPANY

Home Office and Factory—Erie, Pa., U. S. A.

General Office—St. Louis, Mo. *District Offices*—Pittsburgh, Pa.; El Dorado, Kan.; Tulsa, Okla.; Newark, Ohio; Eastland and Dallas, Texas; Lawrenceville, Ill.


NEILAN
AT this joyous Holiday Season we gladly pause in the solving of regulation problems and hope that your *back pressure* of happiness builds up to a point where it cannot be *reduced.*
To all members of the Oil and Gas Industry and their families we extend our very best wishes for a Merry Christmas and a Happy and Prosperous New Year.
Neilan, Schumacher & Co.,
and all our Representatives

PRODUCERS WILL PETITION FOR PRORATION IN 1930 IN OKLAHOMA

Representatives of 27 oil companies operating in the flush fields of Oklahoma met in Tulsa on Thursday, December 12, and adopted a resolution which provided that the Oklahoma Corporation Commission be apprised of a threatened serious condition of overproduction of crude oil in Oklahoma in the first three months of 1930, and that the Commission be asked to prevent wasteful production by ordering the curtailment and proration of production in the areas where overproduction threatens to prevail. The resolution, which was presented by C. C. Herndon, vice president of the Skelly Oil Co., and seconded by R. F. MacArthur, vice president of the Barnsdall Oil Corp., was as follows:

Resolution

"Whereas, the present conservation order of the Corporation Commission of Oklahoma expires December 31, 1929, and

"Whereas. it is beyond dispute that the potential production of crude oil in Oklahoma is in excess of market demands and that overproduction would become acute and wasteful if the flush and semi-flush areas of the State should be permitted to produce to capacity from and after January 1, 1930:

"Therefore, be it resolved, by the operators interested in the pools now covered by the present proration order, to-wit: Oklahoma City, East Earlsboro, Logan County, Allen Dome, including all producing sands, Sasakwa, Pearson-St. Louis-Asher Area, and all pools in the Greater Seminole Area, that the Corporation Commission be advised of the threatened condition of waste and petitioned to make an order effective from January 1, 1930, to March 31, 1930, to prevent waste by curtailing and prorating production in the above mentioned areas according to the plan submitted in this resolutions, as follows:

Suggested Proration Percentages

"Oklahoma City and East Earlsboro—January, 40 per cent; February, 40 per cent; March, 50 per cent. Seminole and others—January, 20 per cent, February, 20 per cent; March, 20 per cent.

PRORATION PERCENTAGES APPLIED

	Potential daily average production (Bbls.)	Estimated production under proration (Bbls.)
January—		
Oklahoma City	140,000	84,000
East Earlsboro	80,000	48,000
Seminole and others .	349,500	279,600
Rest of state	230,000	230,000
Total	799,500	641,600
February—		
Oklahoma City	200,000	120,000
East Earlsboro	80,000	48,000
Seminole and others .	340,000	272,000
Rest of state	230,000	230,000
Total	850,000	670,000
March—		
Oklahoma City	300,000	150,000
East Earlsboro	70,000	35,000
Seminole and others .	327,000	261,600
Rest of state	225,000	225,000
Total	922,000	671,600

"Upon examination of the provisions of the order of the Corporation Commission now in effect with reference to the delay which each new well is required to take before it is permitted to produce, we are convinced that there should be a notification in this regard in any order adopted by the Commission to apply after January 1 next because of the pyramiding of shut-in time which would result from a continuation of the present plan. We, therefore, recommend that a stated number of days of shut-in time be fixed to apply to all wells that may be drilling on January 1, 1930, or which may be commenced prior to March 31, 1930, according to a schedule as follows:

	No. days cement to set	No. days open flow for test	Days shut down	Total
Oklahoma City.	7	1	57	65
East Earlsboro	7	1	41	49
Seminole, et al	7	1	16	24

"With reference to wells drilled prior to January 1, 1930, and during the effective period of the present proration order of the Commission, we recommend that the terms of said existing order be continued in effect but with a maximum shut-in time as stated in the above schedule."

William N. Davis, vice president of the Phillips Petroleum Co. and president of the Mid-Continent Oil & Gas Assn., was chairman of the meeting.

The resolution was amplified by C. C. Herndon, who gave a short history of the Oklahoma proration movement started last September, and who set forth the manner in which the figures on potential supply and estimated demand of Oklahoma crude were arrived at by the experts assigned to that duty. Not a voice was raised in criticism of the figures or the percentages of proration which should be applied to the various fields named.

Will Ask Co-operation

Wirt Franklin, president of the Wirt Franklin Oil Corp., producer and refiner of oil, who has been one of the leading spirits in the conservation movement, brought up the question of oil imports. He was strongly of the opinion, he declared, that oil companies operating in foreign fields and bringing their oil to the United States, where it competes with American crude, should be individually informed of the efforts being made by domestic producers to keep surplus oil in the ground until needed, and impressing upon them that over-importation of oil was a part of the common problem of oversupply. He wished this done, he said, in the hope that they, as individuals, could devise means of curtailing their production in Venezuela and other large producing countries now contributing to the American market for crude and its products. The Wilson law, oil men have been informed, acts as an obstacle to importers getting together in an agreement to limit imports, but it appeared to Mr. Franklin that producers of foreign oil could, as individuals, limit their foreign production, which would naturally cut down the amount of crude they could ship. Mr. Franklin expressed the fear that the widespread movement to stabilize domestic production so that it would be in line with current demand and conserve the surplus in the ground to be drawn upon as needed, was imperiled by increased importations of oil.

A committee was appointed by Chairman Davis consisting of James A. Veasey, vice president of the Carter Oil Co.; Wirt Franklin and H. H. Smith, secretary of the Mid-Continent Oil & Gas Assn., with instructions to formulate a letter which would call attention to the situation and seek the co-operation of individual companies listed as producers in the fields from which crude oil is shipped to the United States.

The committee which will appear before the Oklahoma Corporation Commission to present the petition for an extension of proration was named by Chairman Davis. It consists of W. C. Franklin, vice president of the Tidal Oil Co.; Wirt Franklin, James A. Veasey, Harry H. Smith and Ray M. Collins, umpire.

NAVAL OIL RESERVES

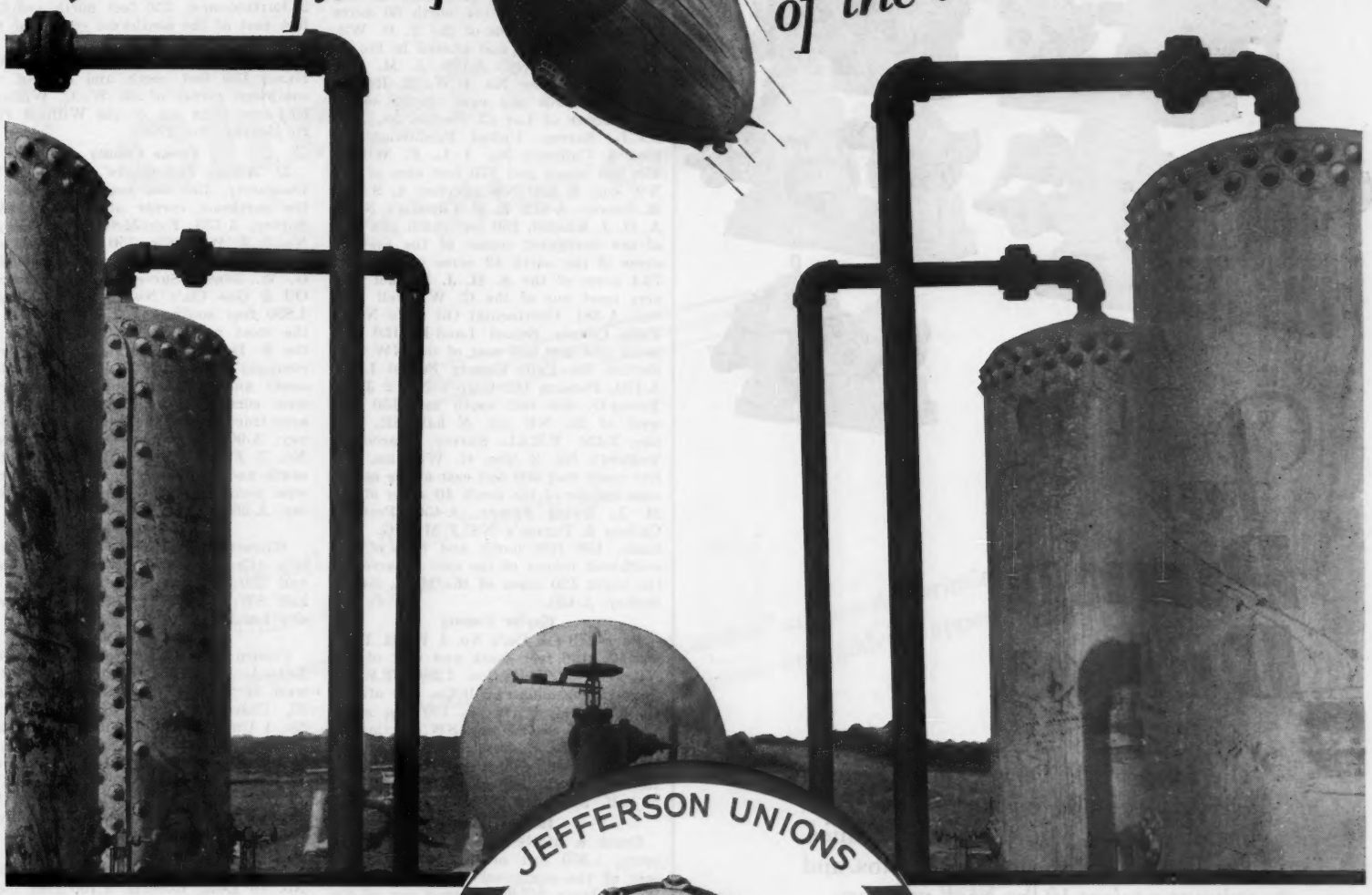
Legislation is urgently needed to protect government naval oil reserves from drainage by owners of private land within and adjoining the Federal holdings, according to the Secretary of the Navy, Charles Francis Adams, in his annual report to President Hoover.

W. H. HOPKINS DIES

CHATHAM, Ontario, Dec. 14.—William Henry Hopkins died recently at Petrolia, Ontario, aged 84. He came to Petrolia in the early boom days, and was for a time oil well superintendent for large Petrolia interests.

IMPORTANT

as the fittings on Giants of the air!



JEFFERSON UNIONS

Style "E" Recommended for working steam pressures up to 1,000 lbs.

The storing of gaseous fluids, on the ground, carries with it the same element of danger that accompanies the storing of gases, in great bags, in the air. No part of these fluids or gases can be allowed to escape — *they must be kept in.* The oil world long ago recognized the merit of Jefferson Unions for this purpose. Jefferson Unions are tight, they are strong, they are durable and long-lived, with high salvage value.

Jefferson Unions are manufactured from air-refined, Certified Malleable Iron, made in our own foundry. Seat rings are made from the finest grade of brass,—and are located in a recess, away from the runway of the fitting, protected from abrasion and corrosion. Ground ball, brass to iron joints, ground in pairs, eliminate need for gaskets. Coarse threads are heavily graphite coated. Spherical joints, with plenty of play, make Jefferson Unions easiest to apply. Furnished with iron-to-iron joints, (as well as brass to iron) at no extra cost, when specified for use in oil fields where a highly corrosive condition exists.

Handled By All Leading Oil Industry Jobbers

JEFFERSON UNION COMPANY
Lexington, Mass., U. S. A.

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TERRY Turbines

For Pump Drive

The five 80 HP Terry Turbine pump drives shown above have recently been installed by a Mid-Continent refiner. They operate with steam at 150 lbs. and exhaust against 10 lbs. back pressure.

These turbines are typical of the many hundreds of Terrys that are now serving the oil industry. The one-piece steel turbine rotor makes for high dependability and long life.

Built in all sizes from 5 HP to 1500 HP for any commercial steam pressure and back pressure. A Terry engineer will be glad to aid you in selecting the proper type for your requirements.

Ask for Bulletin S-84

The Terry Steam Turbine Company

TERRY SQUARE, HARTFORD, CONN.
OFFICES IN PRINCIPAL CITIES

Steam Turbines · Gears · Shaft Couplings

T-1044-R

NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

NORTH CENTRAL AND WEST TEXAS
Week Ending December 4

Archer County

Bridwell Oil Co.'s No. 1 W. H. Taylor, 560 feet north and 450 feet east of the southwest corner of Lot 3, Section 14, A.T.N.C.L. Survey. Burns & Long's No. 1 J. H. Turbeville-B, 150 feet south and 825 feet west of the NE cor., Section 153, R. Carson Survey. Hedrick-Camp Drilling Co.'s No. 2 T. B. Wilson, 450 feet north and 150 feet east of the southwest corner of the north 60 acres of the east 100 acres of the T. B. Wilson 722-acre tract and located in the B. J. Howard Survey, A-179. J. M. Seaberry and others' No. 1 W. R. Brown, 510 feet north and east of the southwest corner of Lot 13, Section 98, A.T.N.C.L. Survey. United Production-Perkins & Cullum's No. 1 L. F. Wilson, 450 feet south and 970 feet east of the NW cor. N half NW, Section 1, S.P.R.R. Survey, A-412. E. G. Christie's No. 1 A. H. J. Kunkel, 150 feet south and east of the northwest corner of the east 23 acres of the north 43 acres of the west 75.4 acres of the A. H. J. Kunkel 203-acre tract out of the G. W. Stell Survey, A-381. Continental Oil Co.'s No. 2 Falls County School Land-B, 150 feet south and 200 feet east of the NW cor., Section 15, Falls County School Land, A-130. Pandem Oil Corp.'s No. 2 J. A. Young-D, 450 feet south and 150 feet west of the NE cor. N half SE, Section 2,426, T.E.&L. Survey. Peacock & Tedford's No. 2 Mrs. G. Williams, 150 feet north and 900 feet east of the southwest corner of the south 40 acres of the M. L. Swing Survey, A-450. Perkins-Cullum & Parson's No. 1 Mrs. G. Williams, 150 feet north and east of the southwest corner of the east 60 acres of the north 120 acres of the M. L. Swing Survey, A-450.

Baylor County

Barnsdall Oil Co.'s No. 1 W. H. Portwood-A, 150 feet south and east of the NW cor. NE, Section 1,280, T.E.&L. Survey. Consolidated Oil Co. and others' No. 3 W. H. Portwood, 150 feet north and west of the SE cor. SW, Section 1,-281, T.E.&L. Survey. Consolidated Oil Co. and others' No. 4 W. H. Portwood, 150 feet north and east of the SW cor. N half, Section 1,281, T.E.&L. Survey.

Brown County

Crabb & McNeil's No. 7 J. W. Ellsberry, 1,350 feet north and 2,450 feet east of the southwest corner of the J. W. Ellsberry 257.6-acre tract out of the J. L. Williams Survey, No. 146. P. French's No. 5 Dee Belvin, 450 feet south and 150 feet east of the northwest corner of the D. Belvin 40-acre tract out of Section 42, H.T.&B. Survey. Humble Oil & Refining Co.'s No. 18 J. C. Kilgore-B, 600 feet south and 200 feet west of the NE cor. W half, Section 3, J. Delgado Survey, No. 789. Humble Oil & Refining Co.'s No. 19 Kilgore-B, 200 feet north and west of the SE cor. W half, Section 3, J. Delgado Survey, No. 789.

G. Metcalf's No. 1 T. M. Jones, 728 feet south and 150 feet east of the northwest corner of the B. F. Chrane Survey, A-1,666. Mitchem & Preston's No. 1 J. B. Turner, 1,170 feet north and east of the southwest corner of the M. Montieth Survey, No. 2. E. L. Smith Oil Co.'s No. 29 L. A. George, 1,002 feet north and 150 feet west of the most southerly southeast corner of its lease out of Section 42, H.T.&B. Survey. Same company's No. 30 L. A. George, 1,302 feet north and 150 feet west of the most southerly southeast corner of its lease out of Section 42, H.T.&B. Survey. Same company's No. 31 L. A. George, 1,602 feet north and 1,225 feet west of the SE cor., Section 42, H.T.& B. Survey. Buecher and others' No. 1 S. M. Black, 1,800 feet southwest of the northeast line and 150 feet northwest of the southeast line of Section 8, Brown County School Land, No. 362.

Callahan County

E. P. Campbell and others' No. 2 I. N. Jackson, 200 feet north and west of the SE cor. N half NW, Section 20, E. T.R.R. Survey. States Oil Corp.'s No. 1 D. E. Allen, 200 feet south and east of the NW cor., Section 81, B.B.B.&C. Survey.

Coleman County

Diana Oil Co.'s No. 2 J. P. Morris, 150 feet north and 507 feet west of the SE cor., Section 27, William Webber Survey, No. 722. Lloyd Oil Corp.'s No. 2 Bartholemew, 150 feet north and 555 feet east of the southwest corner of the William Farris Survey, No. 279. V. Mattox and others' No. 1 W. C. Williams, 150 feet north and east of the southwest corner of the W. C. Williams 93.4-acre tract out of the William Farris Survey, No. 279.

Cooke County

D. Atkins and others' No. 1 J. W. Dougherty, 150 feet south and west of the northeast corner of the B.B.B.&C. Survey, A-139. Fain-McGaha Oil Corp.'s No. 1 J. B. Wells, 150 feet south and west of the northeast corner of the Hrs. G. W. Jewell Survey, A-537. Kewanee Oil & Gas Co.'s No. 1 S. H. Dennis, 1,850 feet south and 150 feet west of the most northerly northeast corner of the S. Hernandes Survey, A-437. Same company's No. 1 E. F. Pickett, 150 feet south and 832 feet east of the northwest corner of the E. F. Pickett 146-acre tract out of the James Sadler Survey, A-902. Kewanee Oil & Gas Co.'s No. 1 F. M. West (Dill), 1,004 feet south and 1,857 feet east of the northwest corner of the G. Chenneworth Survey, A-263.

Crane County

Warner-Quinlan Co.'s No. 7 University (Church-Weekley), 990 feet south and 330 feet east of the NW cor. E half SW, Section 39, Block 30, University Land.

Ector County

Cosden Oil Co.'s No. 1 University Land-A, 2,310 feet south and 440 feet west of the NE cor., Section 1, Block 35, University Land. Same company's No. 1 University-B, 1,650 feet south and 440 feet west of the NE cor., Section 2, Block 35, University Land. Landreth Production Corp.'s No. 1 University-A, 990 feet south and 440 feet west of the NE cor., Section 2, Block 35, University Land.

Howard County

Laurel Oil & Gas and Cosden Oil Co.'s No. 16 Dora Roberts, 1,750 feet north and 330 feet west of the SE cor., Section 136, Block 29, W.&N.W.R.R. Survey. Magnolia Petroleum Co.'s No. 19 D. Roberts, 280 feet south and 2,410 feet east of the NW cor., Section 157, Block 29, W.&N.W.R.R. Survey.

Kent County

Atlantic Oil Producing Co. and others' No. 1 E. E. Wallace, 330 feet north and east of the SW cor., Section 60, Block G, W.&N.W.R.R. Survey.

Mitchell County

E. Morrison and others' No. 2 Z. F. Morrison, 2,390 feet south and 660 feet west of the NE cor., Section 31, Block 28, Township 1n, T.&P. Survey.

Pecos County

Pecos County Crude Oil Purchasing Co.'s No. 4 Pecos Valley Oil Co., 770 feet northeast of the southwest line and 1,320 feet northwest of the southeast line of the southwest 160 acres of the northwest 320 acres of Section 22, Block 10, H.&G.N. Survey.

Wichita County

Star Drilling Co.'s No. 3 R. L. Crudup-A, 150 feet south and 1,000 feet east of the NW cor., Section 10, Denton County School Land, League 4, A-417. Sheldon & Jamison's No. 2 A. Volkart, 150 feet south and 450 feet east of the NW cor., Section 309, Waggoner Colony Subdivision. E. J. Stump and others' No. 2 Waggoner Brothers, 150 feet south and east of the northwest corner of Lot 8,

(Continued on Page 172)

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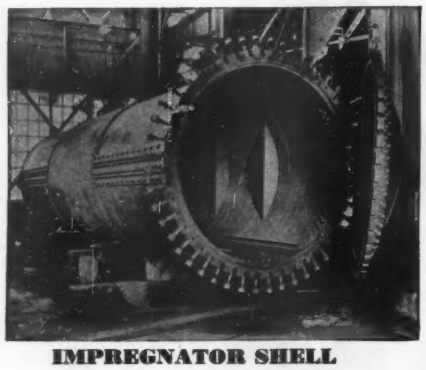
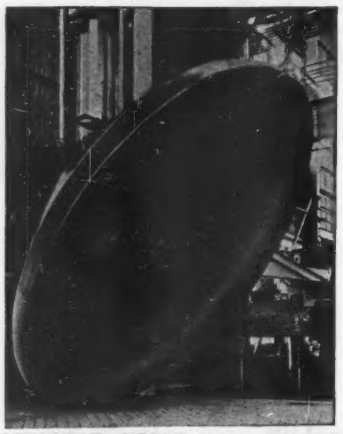
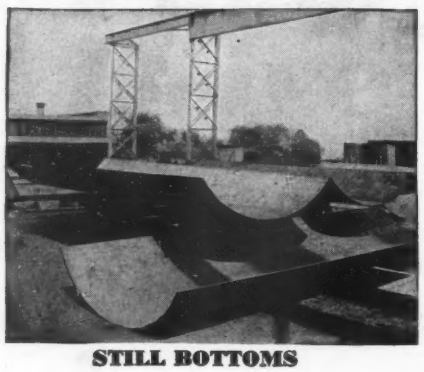


IMPREGNATOR SHELL



SPECIAL CONE (15 ft. diameter)



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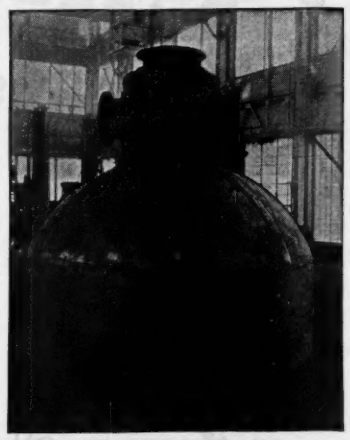
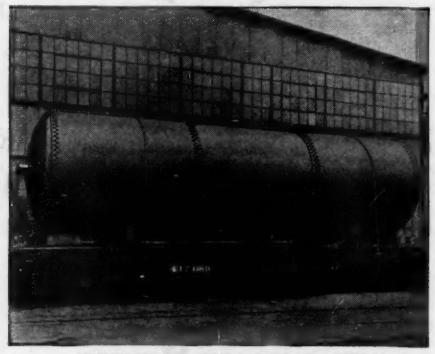


SPHERICAL HEAD (15 ft. diameter



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NEW TECHNIQUE IN DEVELOPING WATER

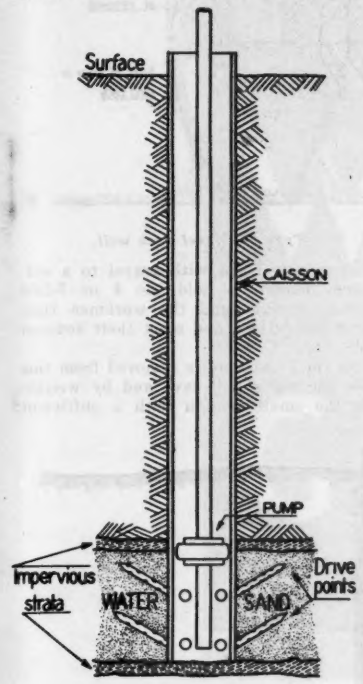
(Continued from Page 43)

with relation to the flow of water in the sand.

Mr. Carter has nine systems in all that he has developed in his many years of specializing in this work, and they begin with the simplest form of dug well that is sunk into the water sand, to some very intricate types of caisson driven shafts with varied forms of tunnels in and under the water sands. Each system will be treated in some detail and the accompanying sketches will give general ideas of them.

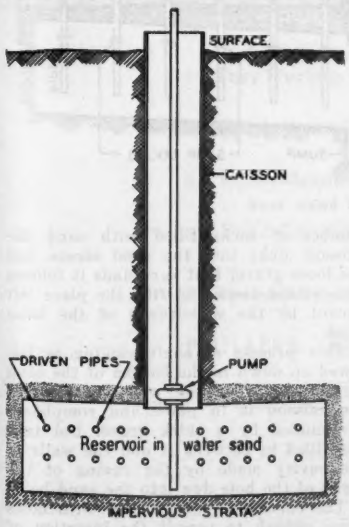
Types of Wells

The dug well (Type 1) is familiar to everyone for this method of securing a supply of water is perhaps nearly as old



Type 1—Dug well.

as man and every nationality has followed the general ideas for ages past. Mr. Carter has introduced into his work the use of wooden caissons and in sinking his wells for he finds that this is the only method possible to use when passing through loose ground and quicksands, and usually both of these types of formations are found in developing water



Type 2—Dug well with station.

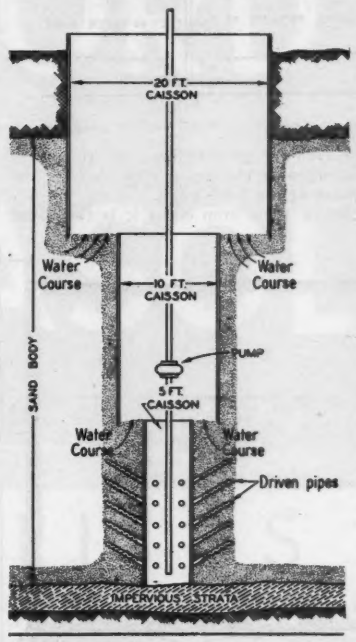
supplies in even semiarid country such as West Texas and New Mexico.

Two methods of finishing the straight dug well are employed—one, to simply leave the full size hole in the sand with its caisson in place and properly placed sand points extending out into the water sand, and other (Type 2) is to dig a chamber or "station" at the bottom of the shaft so that greater drainage area can be had from the walls of this room and thereby more water secured and stored.

The secret of success of keeping an even flow of water into the bottom of the well comes with the proper placing of the short driven sand points, usually made of 2-inch black pipe that is drilled with holes along its length and then wrapped with copper screen wire. Copper screen is needed because corrosion would destroy ordinary iron or steel screen wire quickly.

These drive pipes are fitted with sharp points so that they penetrate into the sands easily and it is the usual practice to drive them into the sand at an angle slightly above the horizontal so that they are self-cleaning and fine sand and dirt will then wash out of them after passing through the fine screens, which are usually 100 mesh.

When it is found that the well cannot be carried to the desired depth with its diameter constant for the full distance it is Mr. Carter's practice to start a large hole at the top, varying in diameter from 12 to 20 feet and line this with the wooden caisson, which is sunk just as



Type 3—Step-down well.

deep into the water sand as its strength in resisting side-wall crushing will permit. (Type 3.)

Caisson Type

When this large caisson has been sunk to its proper level the hole is decreased in diameter and a second caisson used which is from 8 to 12 feet in diameter, depending upon the size of the upper caisson.

This process is repeated a third time by further reduction of the hole diameter to from 5 to 8 feet for completing the well, and each caisson is left in place so that the well has a series of steps with the bottom of each diameter portion of the hole left open for inflow of water from the sands.

The lowest caisson is drilled and drive points inserted into the sand so that water will run into the well freely and in this way the capacity of the well is very large for it has a large area exposed to the incoming waters.

The fourth method (Type 4) is an expansion of the shaft and room system and consists of running long tunnels in the water sand body, some of these tunnels being upward of 700 feet long through their entire length. They are run in a direction that is across the water channel and form underground reservoirs for the storage of water, for the tunnels vary in size from 6 to 8 feet.

Another variation (Type 5) of this detail is to sink the shaft through the water sand by the use of the caisson and then drive tunnels in two directions from

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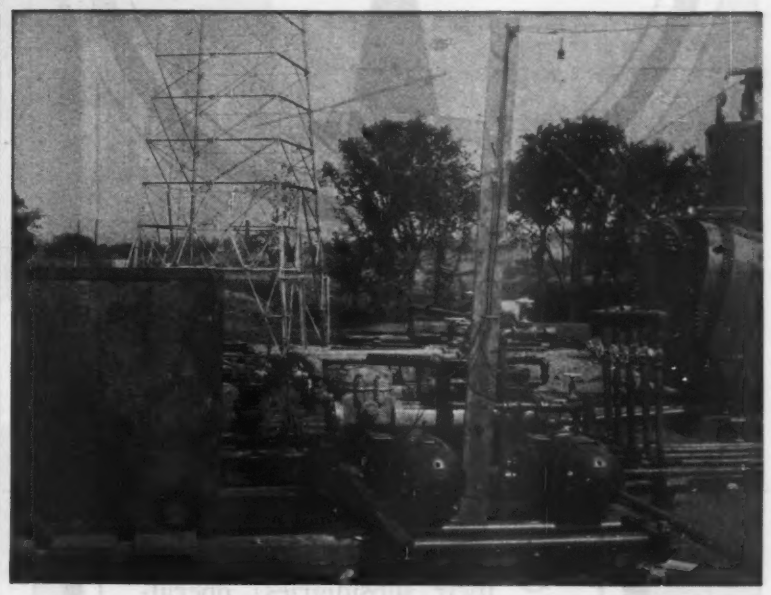

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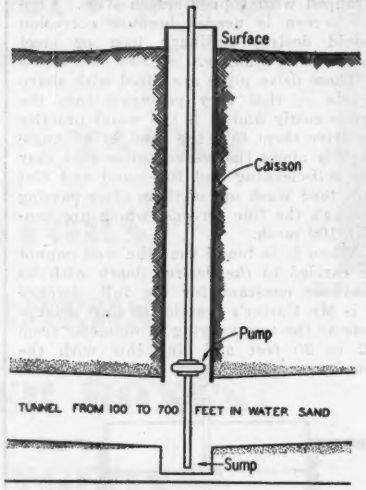
the shaft bottom under the impervious strata that forms the bottom of the water sand formation.

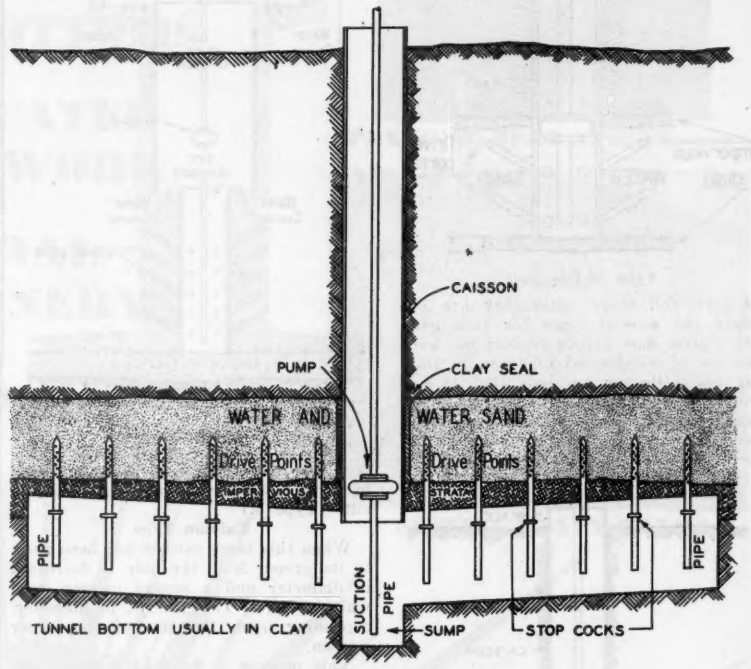
This impervious layer of material is usually of clay and Mr. Carter's method requires that drive points be inserted upward into the water sand at short intervals along the roof of the tunnel and it has been found that the clay will pack around the lower end of the drive pipe in such a way as to prevent leakage and



Type 4—Tunnel well in sand.

the flow of water into the tunnel is controlled by the use of stop cocks in the bottom of the drive pipes.

Below these stop cocks it is the usual practice to screw on short lengths of pipe that are not perforated and when the stop cocks are turned on when all drive pipes are in place water will fill up the tunnels so that these down pointed pipes are submerged.



Type 5—Tunnel well below sand.

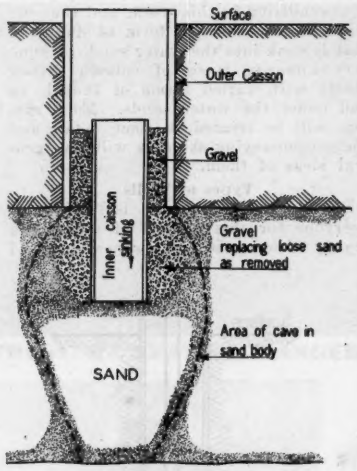
Pulls Water Out

As the water level in the tunnel falls it creates a suction on these pipes and this actually pulls water out of the water sands above. This has been demonstrated and Mr. Carter is given credit for developing this novel feature of draining a water sand area and by its use has found that even in the driest seasons there will always be plenty of water in his storage tunnels and available for the plant that the system is serving.

The sixth method (Type 6) of sinking water wells is unique in that it employs a caving system and back fill all at one time to create a gravel reservoir in the sand strata.

This system requires that the upper part of the well down to the water sand be not less than 10 feet in diameter and it is dug in the usual way, and when the top of the water sand is reached the hole is reduced to about 4 or 5 feet in diameter.

Into this smaller hole a wooden caisson is introduced from the surface and centered over the small hole and the space



Type 6—Gravel pack well.

around it is filled with gravel to a sufficient height to hold the 4 or 5-foot caisson upright and the workmen then enter the caisson and start their reduced hole.

As the loose sand is removed from this hole the walls will cave and by weighting the small caisson with a sufficient number of sacks filled with sand the caisson sinks into the sand strata and the loose gravel that surrounds it follows the caisson down and fills the place left vacant by the withdrawal of the loose sand.

This process of shaft sinking is followed on down to the bottom of the sand strata and when the well is completed the caisson is in place and completely surrounded by a thick gravel bed that has filled in between it and the walls of the cavity made by the caving of the walls of the hole dug into the sand body.

The caisson is then drilled with holes large enough to permit the insertion of the screened drive pipes and they penetrate the gravel space, which being large in diameter gives an excellent water reservoir and at the same time holds back loose sand from the walls of the caisson and the drive points.

Other types of wells are dug or bored by Mr. Carter and he also drills wells using either cable tools or rotary outfits, but usually completes such wells by shoot-

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ing them with from 5 to 10 quarts of nitroglycerin.

Salt and Fresh Water Stratify

Mr. Carter makes a very interesting statement that he claims he has proven by his work, and that is, that salt and fresh water will stratify in a sand body and the heavier salt water will not intermingle with the fresh water above, even though the well is produced to the capacity of the fresh water body.

For instance, if the water sand is 15 feet thick and when the shaft or well is sunk into it and the sand tested it is found that the lower 5 feet is filled with salt water the upper 10 feet of sand body gives off fresh water.

The well is finished in the usual manner, that is the caisson is sunk through the whole sand body and drilled and the drive points placed in the upper sand body where the fresh water is encountered. This well will give only fresh water so long as pumped for the heavier salt water keeps its place at the bottom of the sand strata, at the level to which it had sunk when the waters were in their original state and no wells were draining the area.

Pumping water from well by use of two-stage centrifugal pump, direct motor driven. Discharge through a 3-inch pipe.

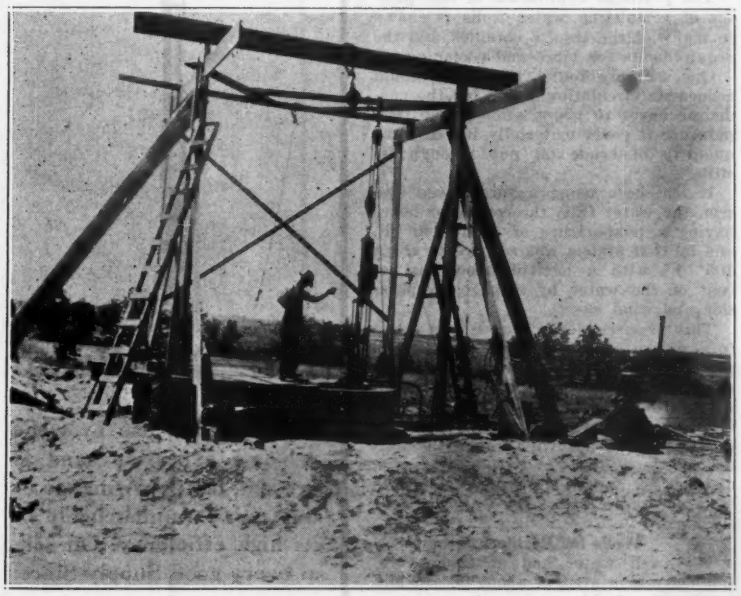
Mr. Carter states that he can demonstrate this condition by taking two tumblers or beakers of water, one fresh and the other salty, and by coloring the fresh water with potassium permanganate and then carefully pouring this colored water down the inside of the glass containing the salt water the fresh water can be observed to float on the top of the salt water and form a layer. It is now possible to siphon out the upper body of fresh water without disturbing the salt water underneath.

It has also been found that waters of different degrees of hardness will form different strata in the underground water courses, and wells that have started to pump good fresh water have been known to later produce hard water.

This is explained by the fact that in such instances the supply of fresh water was limited at the source, perhaps because of lack of rainfall, and as its level was drawn down in the sands the hard water has replaced it.

To overcome this Mr. Carter recommends extreme care be taken in determining the level for the bottom of the pump suction pipe, and providing ample drainage area in the good water portion of the sand.

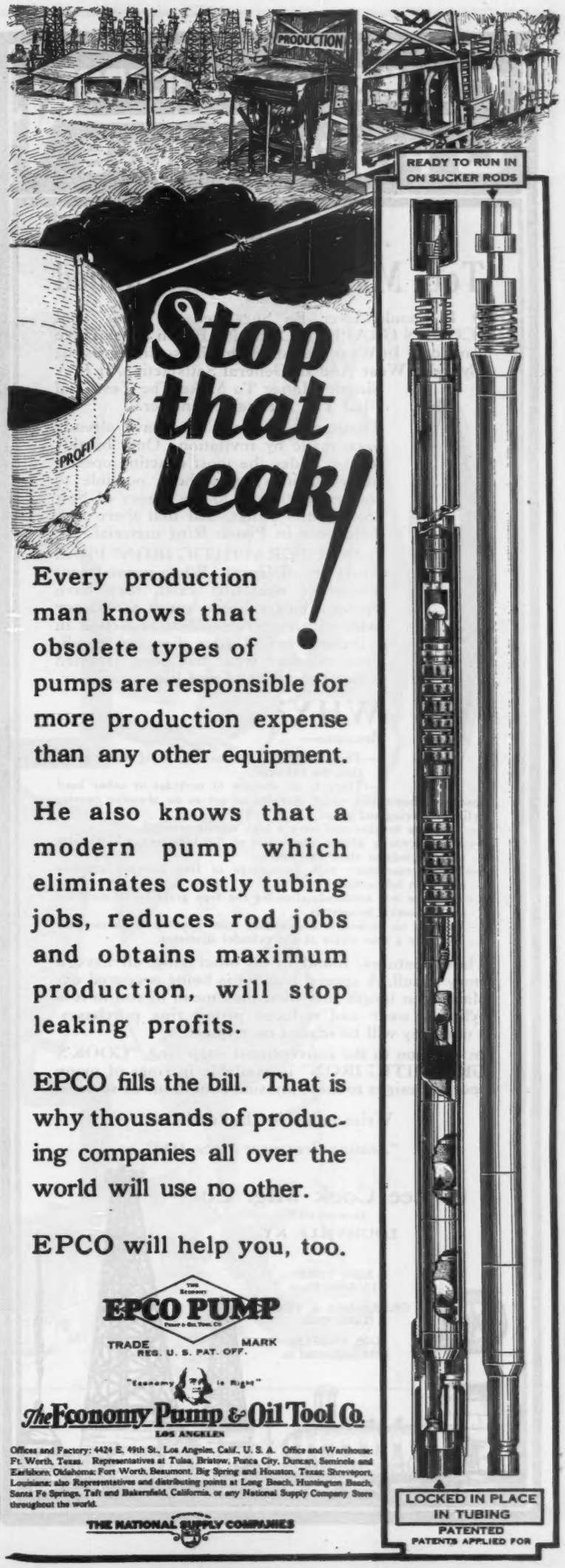
These underground water bodies tapped by dug wells being relatively shallow are fed by rains and snows and the further from the outcrop to the wells the greater is the chance for contamination with hard or gyp waters, but if this condition is borne in mind in selecting the location of water wells, Mr. Carter states that it is possible to move up the underground stream bed toward the outcrop and at some point good water will be found.



Sinking well and tunneling on Gillespie and Moran property in the St. Louis, Oklahoma, district. Steam pump over well and engine driving blower at side. This well had two tunnels leading from it, one at 44 feet and the other at 184 feet. Water from upper tunnel is being pumped from hole as well is sunk.

Underground Study

Underground study of structure and conditions present a never ending variation and Mr. Carter has observed many things in his work that should prove of considerable value to the driller of oil and gas wells, for he has actually observed and made some measurements of



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conditions underground that confirm some things long suspected to exist.

For instance, in one of his wells he drove a tunnel in the water sand and encountered a very hard clay nodule that filled the sand body from top to bottom and was approximately 4 feet in diameter and as this sand had been quite

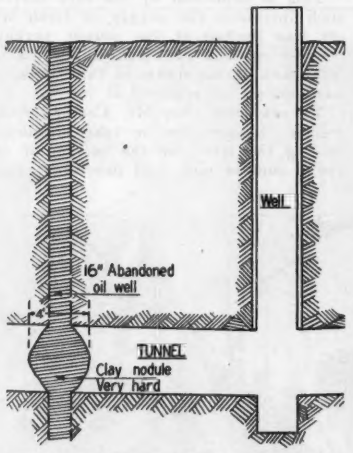

Figure 3—Clay nodule in water sand.

uniform except for this particular area it was hard to explain how this nodule had been formed. (Figure 3.)

Investigation developed the fact that this was the site of an abandoned oil well that had been drilled with a rotary outfit using a 16-inch bit in this upper portion of the old well. The well had ceased to produce and the casing had been pulled and the hole pumped full of rotary mud to plug it and this mud had formed this clay nodule in what had been an old caved portion of the originally dug rotary hole.

This gives direct evidence of the relative sizes of caves in loose sand strata to the size of the drilled holes and as the shape of the nodule was elliptical in the vertical direction, or from top to bottom, it indicates that the top and bottom of the hole had done the least caving in this instance.

The practical application of this process of completing water wells is shown in many of the results obtained and the requirements for more and cooler water.

One refinery found that if it could reduce its circulating water for the condensor boxes to about atmospheric temperature it could materially increase the quantity of crude oil put through its stills.

It had been using a spray pond system, the water from the condensor boxes having a temperature of about 140° F. and by that system was reduced to about 105° F. with a loss of about 30 per cent of the water by seepage, evaporation and wind loss.

This same condenser water was taken to a system of 2-inch Carter type driven pipes that extended down to a water sand. These sands lay from 30 to 70 feet below the surface and the condenser box water was run into them by gravity and withdrawn through the tunnel system of a water well located at a distance of approximately one-half mile from the place where the water entered the sand.

Wells for Refineries

This well water had a temperature, summer and winter, of about 60° F. and by the use of this much cooler water in the condenser system an actual increase in refinery capacity of 12 per cent, minimum, was attained.

This system has been put into use by the Phillips Petroleum Co., the Continental Oil Co., C. F. Noble Oil Co., Panhandle Refinery and the American Refining Co., at refineries in Wichita Falls and West Texas.

In sinking these wells Mr. Carter and his crew, men who have been with him through his 11 years of experience in this work, have encountered gas and oil in the formations and have had to use every precaution to guard against its ill effect.

The gas was eliminated by pumping

A SAND FIGHTER

Huf-Duo Pump

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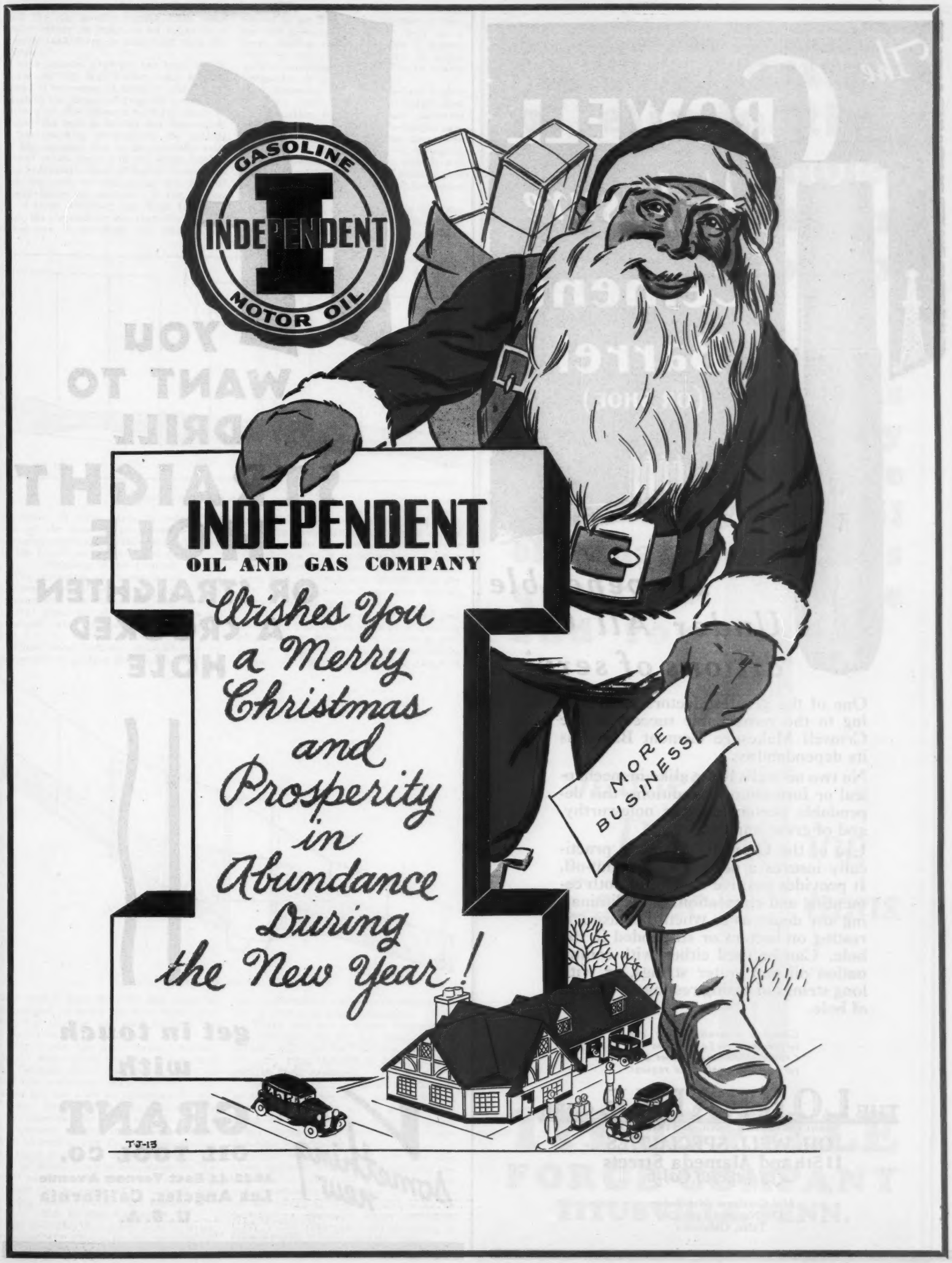
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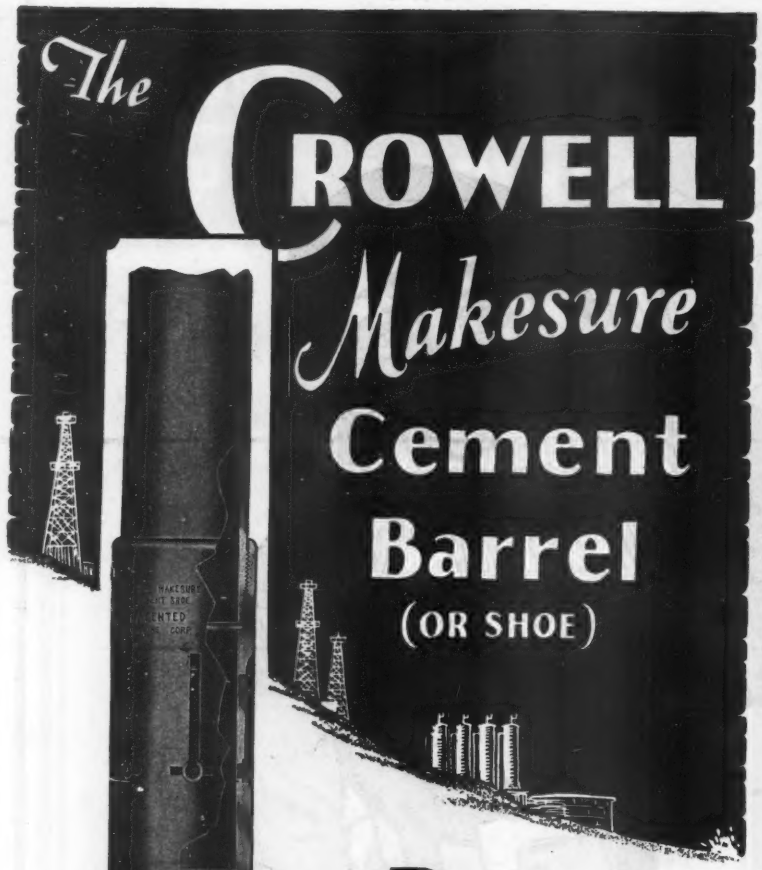

Dependable Under All Conditions of service

One of the greatest factors contributing to the remarkable success of the Crowell Makesure Cement Barrel is its dependability.

No two oil wells being alike in mechanical or formational conditions, this dependable performance is noteworthy, and of great importance.

Use of the Crowell Makesure practically insures a perfect water shut-off. It provides positive control of both cementing and circulation, thus eliminating any doubt as to when the casing is resting on bottom or suspended in the hole. Can be used either with combination oil and water strings, or with long strings of casing resting on bottom of hole.

Complete cementing data and information relative to the Crowell Makesure Cement Barrel will be supplied on request.

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fresh air in large volume into the hole, and the oil, usually coming from some leaky casing or leaks in oil tanks in a nearby tank farm, is sealed off with the caisson.

This caisson practice has been highly developed by Mr. Carter and he has found it necessary at times to pile sacked sand to the extent of from 60 to 90 tons on top of the caissons to force them to follow the hole as it was dug downward.

The crushing pressure on the outside of the caissons has to be carefully estimated at all times and the equivalent of the hydrostatic head of water is used for this purpose, or .433 pound per foot of depth below the surface. If the caisson is of large diameter, say from 10 to 20 feet, its strength is less than the smaller sizes and it therefore has been found

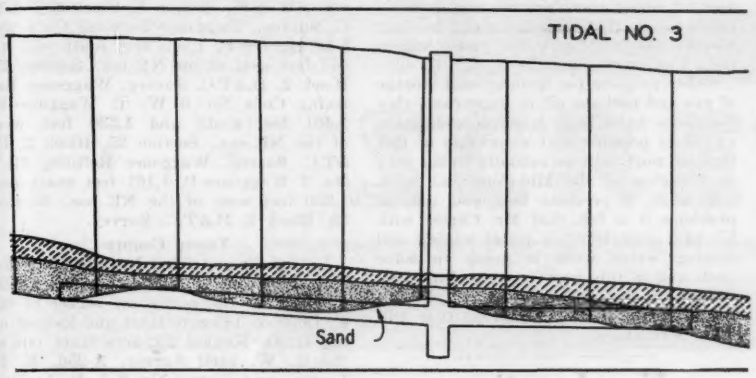

Figure 4—Tidal Oil Co. No. 3 water well.

expedient in some cases to reduce the size of the hole to accommodate these changing conditions. This was explained in the fourth method outlined above.

Mapping Water Courses

The mapping of underground water courses presents some very interesting information and cross sections of two typical areas are shown in sketches reproduced with this article. (Figures 4 and 5.)

These areas indicate quite clearly an old erosional surface that has been filled

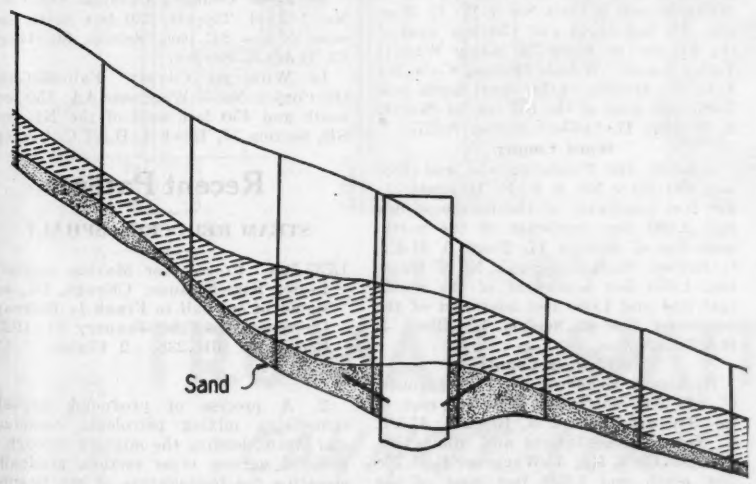

Figure 5—Charles Noble No. 1 water well.

later with a loose material and might be interpreted as being old river beds filled with gravel, sand and clay, to form the different strata.

Clay forms the best sealing medium for the water sands and where this sand lies between upper and lower layers of clay the reservoir conditions are best suited for the work as developed by Mr. Carter. He has found that these clays will always remain moist and plastic and this permits sealing the drive points in them in such a way that seepage around the pipes is next to impossible and the flow of water into the tunnels under the water sands can be assured at all times, without the waters breaking through and washing loose earth into the tunnels.

Aids Drilling Campaign

The following is quoted from a letter furnished Mr. Carter by the superintendent of the water department of one of the major companies who Mr. Carter served in the Panhandle District of Texas and permitted them to carry on a large drilling campaign when it seemed that because of the scarcity of water such a campaign was going to be nearly impossible of accomplishment.

"I remember when I came here a year ago last April (1926) and looked over this situation, with a few sand points on one little pump as the only available supply and everyone saying that there was no water in this country—I wondered how we would ever develop enough water to permit the enormous drilling program, which we had planned at that time, and carry it out.

"After I had talked with you and you told me what you could do in Dixon Creek, I grasped at your proposition much in the same frame of mind as a drowning man would at a straw and I do not think there was a man in our organization more surprised than I when you finished your first well in 21 days from that time and with 20,000 bbls. per day, which it produced, we were enabled to meet all our requirements.

"This one well put us in the lead and from that time on, through your untiring efforts, your judgment in selecting productive areas and your excellent advice to me, we kept our production ahead of our requirements and also furnished water to dozens of other companies.

"There was not a major company in the field that we did not either furnish all the water for their drilling operations or carry them through a crisis in some part of their campaign.

"In November, 1926, seven months after you started, we were handling 67,000 bbls. per day, with an 80 per cent reserve, all of which had been developed either through your direct efforts or under your supervision.

"Later when you went into the Big Creek country, where the engineering department of one of the major companies had almost completely failed after spending thousands of dollars endeavoring to construct a successful water gathering plant, I felt that you were accepting a contract with a very doubtful future.

"The success of your work in that lo-

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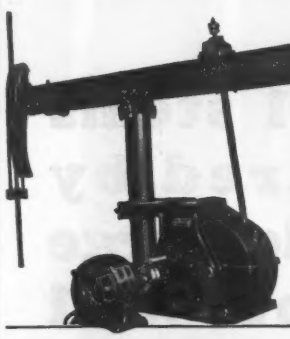

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"We have just completed the figures on the cost of this construction and including the extra work, which you did to insure against abnormal flood conditions, the figure runs but a trifle more than $9,000.

"At this place we now have available and under control approximately 100,000 bbls. per day."

Oil Mining Tests

This is only one of many such letters Mr. Carter has received and his services have constantly been in demand by the major oil producing companies and he has been kept so busy at work that he has had little time to exploit his achievements, but being of an investigating nature he has found time to sink one oil mining shaft in Electra, Tex., and has another under consideration now and his prediction is that oil mining can be done successfully and with no more hazard than sinking water wells.

Other projects for underground storage of gas and perhaps oil in impervious clay chambers have been given consideration and it is possible that expansion of this type of work will be actually under way next spring in the Mid-Continent area, and while it presents new and untried problems it is felt that Mr. Carter with his past experience in metal mining and digging water wells is going to solve them and in this way, perhaps, introduce into the industry some new and cheaper methods of storing gas and oil that will be of advantage.

New Locations

(Continued from Page 160)

Section 8, G.H.&H. Survey, A-748. Ven-Mex Oil Co.'s No. 23 Waggoner Brothers, 150 feet north and east of the most westerly SW cor., Section 2, G.C.&S.F. Survey, A-772.

McCarty Oil Co.'s No. 19 Kemp & Kempner, 106 feet north and 128 feet east of the SW cor. of Lot 19, Block 45, Kemp Wichita Valley Land. Merrick Drilling Co.'s No. 1 S. W. Wigley, 1,617 feet north and 2,158 feet east of the SW cor. of the S. W. Wigley 343-acre tract and located in the C.T.R.R. Survey A-51. Staley-Wynne & Co.'s No. 1 W. L. Warren, 899 feet north and 150 feet west of the SE cor. of Block 32, Kemp Wichita Valley Land. Wilson Drilling Co.'s No. 1 H. S. Griffin, 4,600 feet north and 3,643 feet west of the SE cor. of Section 6, William H. Spillers Survey A-257.

Ward County

Atlantic Oil Producing Co. and Delmar Oil Co.'s No. 6 S. F. Hayzlett, 2,490 feet southwest of the northeast line and 2,490 feet southeast of the northwest line of Section 17, Block 5, H.&T.C. Survey. Same company's No. 7 Hayzlett, 1,650 feet southwest of the northeast line and 1,650 feet southeast of the northwest line of Section 17, Block 5, H.&T.C. Survey.

Wilbarger County

Barkley & Meadows' No. 12 Waggoner-C, 566 feet north and 556 feet east of the SW cor., Section 5, Block 5, H.&T.C. Survey. Bass-Dillard and Simms Petroleum Co.'s No. 1 Waggoner-B, 1,758 feet north and 1,593 feet west of the SE cor., Section 30, J. Poitevent Survey, A-1,884. J. G. Beard and others' No. 1 Waggoner, 660 feet south and 200 feet west of the NE cor. S half NW, Section 10, Block 17, H.&T.C. Survey. Davis Oil Corp.'s No. 5 W. T. Waggoner, 1,161 feet south and 1,030 feet west of the NE cor., Section 35, Block 2, H.&T.C. Survey. Dixie Oil Co.'s No. 2 Waggoner-A, 1,115 feet south and 1,525 feet west of the NE cor., Section 4, Block 5, H.&T.C. Survey. Fain-McGaha Oil Corp.'s No. 22 Waggoner-W, 500 feet south and 550 feet east of the northwest corner of their lease "W" out of Section 32, Block 4, H.&T.C. Survey.

Fain-McGaha Oil Corp.'s No. 23 W. T. Waggoner-W, 150 feet north and 170 feet east of the southwest corner of its lease "W" out of Section 32, Block 4, H.&T.C. Survey. Golding & Cochran and others' No. 4 W. T. Waggoner-K, 505 feet south and east of the NW cor. NE SW, Section 4, Block 17, H.&T.C. Survey. Grayback Development Co.'s No. 1 W. T. Waggoner (Bud), 150 feet north and east of the SW cor. W half SE SE, Section 50, Block 2, H.&T.C. Survey. Lido Oil Co.'s No. 2 W. T. Waggoner-C, 1,110 feet south and 1,977 feet west of the NE cor., Section 35, Block 2, H.&T.C. Survey. Shaw Oil Co.'s No. 6 Waggoner-E, 150 feet south and west of the NE cor. S half SE NE, Section 18, Block 4, H.&T.C. Survey. The Texas Company's No. 5 W. T. Waggoner-D, 520 feet north and 1,766 feet west of the SE cor. N half, Section 43, M.E.P.&P. Survey. The Texas Company's No. 22 Waggoner-E, 165 feet south and 205 feet east of the NW cor. E half NE, Section 25, Block 4, H.&T.C. Survey. Ven-Mex Oil Co.'s No. 1 Waggoner-H, 750 feet south and 150 feet west of the NE cor. SW NW, Section 8, Block 4, H.&T.C. Survey. Waggoner Refining Co.'s No. 5 Waggoner-P, 1,350 feet south and 1,677 feet west of the NE cor., Section 35, Block 2, H.&T.C. Survey. Waggoner Refining Co.'s No. 6 W. T. Waggoner-P, 1,461 feet south and 1,330 feet west of the NE cor., Section 35, Block 2, H.&T.C. Survey. Waggoner Refining Co.'s No. 7 Waggoner-P, 1,161 feet south and 1,330 feet west of the NE cor., Section 35, Block 2, H.&T.C. Survey.

Young County

Goldsmith and King Royalty Co.'s No. 7 H. O. Kunkel, 150 feet north and 400 feet east of the northwest corner of the E. Deitrich 145-acre tract and located on the H. O. Kunkel 252-acre tract out of the G. W. Stell Survey, A-256. R. L. Lowery and others' No. 3 J. P. Atchley, 150 feet south and west of the NE cor. S half, Section 226, T.E.&L. Survey. Madden & Junker's No. 1 H. O. Kunkel, 1,050 feet north and 150 feet west of the southeast corner of the east 43.5 acres of the H. O. Kunkel 252-acre tract out of the G. W. Stell Survey, A-256. Western Production Co.'s No. 1 J. R. Suite, 750 feet north and 150 feet east of the SW cor. SW, Section 1,591, T.E.&L. Survey. Wootten & Reed's No. 2 A. C. Casey, 450 feet north and 345 feet east of the southwest corner of the A. C. Casey Survey, A-7,076.

Corrections

In Pecos County: Cardinal Oil Co.'s No. 1 J. H. Tippett, 330 feet north and west of the SE cor., Section 36, Block 12, H.&G.N. Survey.

In Wilbarger County: Fain-McGaha Oil Corp.'s No. 5 Waggoner-AA, 150 feet south and 450 feet west of the NE cor. SE, Section 18, Block 4, H.&T.C. Survey.

Recent Patents

STEAM REDUCED ASPHALT

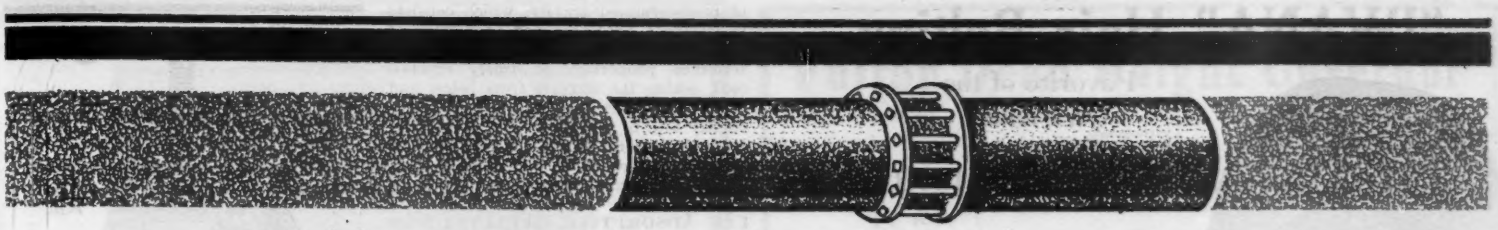
1,735,503. Process for Making Asphalt. Lester Kirschbraunn, Chicago, Ill., assignor of one-half to Frank L. Belknap, Chicago, Ill. Filed January 27, 1923. Serial No. 615,238. 2 Claims. (Cl. 196—74.)

2. A process of producing asphalt comprising mixing petroleum residuum and steam, leading the mixture through a path of narrow cross section, gradually elevating the temperature of the flowing mixtures whereby to superheat the steam and cause intimate contact of the residuum therewith, maintaining a bulk supply of liquid end product, continuously introducing the mixture from said path to said bulk supply in a plurality of jets below the liquid level thereof and there separating the volatile constituents from the liquid end product while subjecting the said bulk supply to agitation, and separately withdrawing the steam reduced asphalt from said bulk supply.

PRODUCE CREOSOTE OIL

1,735,421. Process of Blending Oils. Thomas Cox, Oakland, and Mark L. Requa, Piedmont, Calif., and Alexander S. Knowles, New York, N. Y.; said Cox and said Knowles assignors to said Requa. Filed Aug. 10, 1925. Serial No. 49,216. 1 Claim. (Cl. 196—80.)

A process of producing a creosote oil



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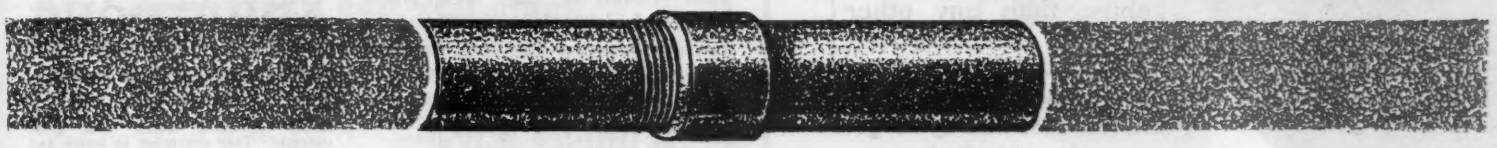

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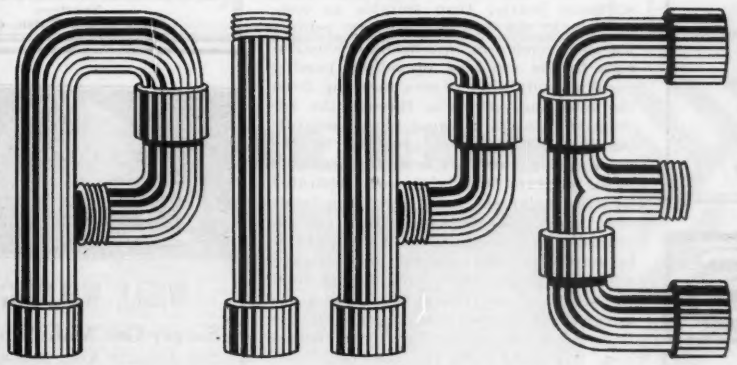

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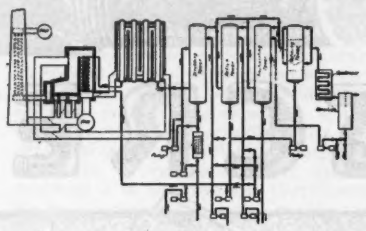
of predetermined gravity, which consists in mixing a predetermined proportion of petroleum oil intimately with a predetermined proportion of finely crushed coal, coking the mixture from below and upwardly under a temperature sufficiently low to chemically blend and liberate a maximum amount of vapors and a minimum of gas, and condensing the vapors and gases liberated.

USE ADSORPTIVE CATALYST FOR VAPOR PHASE CRACKING

1,736,234. Art of Refining Hydrocarbons. Arnold C. Vobach, Whiting, Ind., assignor to Sinclair Refining Co., New York, N. Y., a corporation of Maine. Filed February 29, 1928. Serial No. 257,945. 1 Claim. (Cl. 196—96.)

In the combined cracking of oil to produce gasoline and refining of the cracked



gasoline by passage through an adsorptive catalyst in vapor phase, the improvement which comprises subjecting the gasoline-containing vapors from the cracking operation to a scrubbing treatment and therein separating heavy constituents unsuitable either as components of the gasoline product or to be returned to the cracking operation, discharging such separated heavy constituents without permitting them to return to the cracking operation, subjecting the gasoline-containing vapors escaping from the scrubbing treatment to a refluxing operation and therein condensing intermediate constituents heavier than suitable as components of the gasoline product, returning such condensed intermediate constituents to the cracking operation, passing gasoline-containing vapors escaping from the refluxing operation, through the adsorptive catalyst in vapor phase, separating liquefied polymers produced by the vapor-catalyst contact from the resulting vapor mixture, supplying such separated liquefied polymers to the scrubbing treatment and therein vaporizing light and intermediate oil constituents thereof whereby such vaporized oil constituents escape with the gasoline-containing vapors from the scrubbing treatment, discharging the unvaporized heavier constituents of the liquefied polymers supplied to the scrubbing treatment with the first-mentioned heavy constituents separated in the scrubbing treatment without permitting them to return to the cracking operation, and condensing in the refluxing operation and returning to the cracking operation with the condensate therefrom intermediate oil constituents of the liquefied polymers vaporized in the scrubbing treatment.

TREAT WITH FORMITE OF ALIPHATIC ALCOHOL

1,732,371. Purifying Oil. Martin Luther and Kurt Pieroh, Mannheim, Germany, assignors to I. G. Farbenindustrie, Aktiengesellschaft, Frankfort-on-the-Main, Germany, a corporation of Germany. Filed June 29, 1927, Serial No. 202,-⅛456, and in Germany, July 5, 1926. 6 claims. (Cl. 196-23.)

1. The process of purifying oils which consists in treating same with a formate of a low aliphatic alcohol as an extraction liquid and separating the solution of formate containing the impurities from the purified oils.

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Industrial Cleaning Materials and Methods

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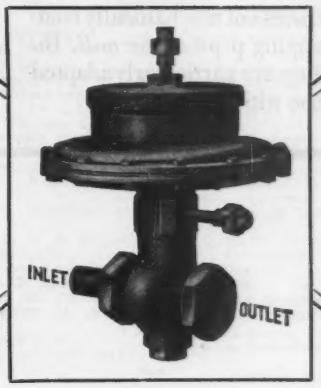

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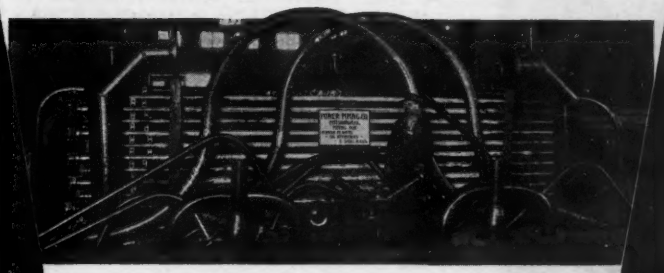

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Investigate the new Hill, Hubbell & Company process of mechanically coating and wrapping pipe *at the mill.* Biturine Coatings are particularly adapted for use with this process.

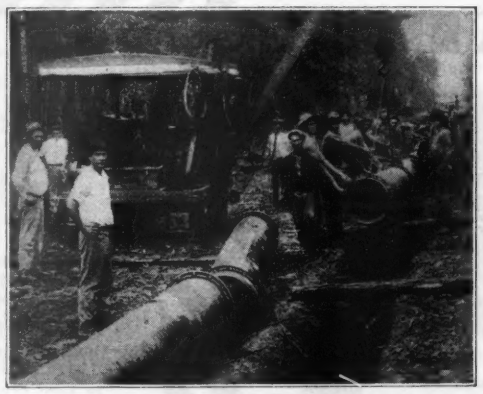
Once the pipe is in the ground

Pipe is expensive. Pipe laying is a costly operation. But the taking up and reconditioning of old pipe lines—laid without the proper protection—is the most expensive operation of all.

Once unprotected pipe has been lowered into the ground, corrosion starts—begins to levy its appalling toll.

You can protect your pipe line investment *before* corrosion sets in. For twenty-three years this organization has been developing a group of protective coatings to meet the specialized needs of the oil industry.

Biturine Coatings have earned the respect and enthusiastic endorsement of pipe line operators and their engineering staffs, for Biturine has met the exacting requirements of rigid competitive tests and is today demonstrating its superiority in thousands of miles of pipe lines.



Inter-State Gas Company Line from Monroe, La., to Natchez, Miss., Coated Outside with Biturine Enamel

BITURINE COATINGS

Biturine Enamel Biturine Enamel Primer*
Biturine Coupling Solution
Biturine Solution No. 5 Biturine 70-30

Biturine Enamel Primer can be obtained with Inhiburine

We will be glad to furnish you with records of service of Biturine coated lines upon receipt of your inquiry at any of the offices listed below.

*INHIBURINE

This entirely new inhibitor with extraordinary anti-corrosive powers is now being incorporated into Biturine Primer whenever specified. Being solvent in Bitumens it becomes an integral part of the priming coat and thereby functions as a second line of defense against corrosion should the Biturine Enamel Coating be penetrated.

GENERAL PAINT CORPORATION

HILL, HUBBELL & COMPANY DIVISION

CHICAGO NEW YORK TULSA HOUSTON DALLAS SAN FRANCISCO OAKLAND
LOS ANGELES PORTLAND SEATTLE SPOKANE

Detailed Operations in All Fields for Month of November

SUMMARY OF ALL FIELDS

WELLS COMPLETED

Field—	Comp.	Prod.	Dry	Gas
Eastern	588	3,592	39	64
Central Ohio	145	1,491	36	67
Lima	21	462	5	2
Indiana	34	260	15	8
Michigan	32	4,093	13	0
Illinois	27	714	8	0
Kentucky	143	5,271	35	15
Oklahoma	297	107,444	97	46
Kansas	82	8,376	39	2
Texas Panhandle	55	17,279	10	12
N. Central Texas	406	20,729	212	14
E. Central Texas	14	690	11	0
West Texas	115	115,452	42	0
Southwest Texas	68	10,400	35	12
East Texas	6	.....	1	5
Gulf Coast	178	58,516	67	12
North Louisiana	69	8,345	20	32
Arkansas	19	730	10	2
Alabama	1	.....	1	0
Wyoming	19	5,480	7	2
Montana	28	344	11	6
Colorado	6	.....	5	1
New Mexico	10	776	5	1
Total November	2,363	370,444	724	303
Total October	2,415	412,790	673	262
Difference	52	42,346	51	41

RIGS AND WELLS DRILLING

Field—	Rigs	Drlg.	Ttl.
Eastern	136	508	644
Central Ohio	60	198	258
Lima	5	33	38
Indiana	5	41	46
Michigan	56	138	194
Illinois	1	50	51
Kentucky	13	166	179
Tennessee	2	12	14
Alabama	1	4	5
Mississippi	6	15	21
Oklahoma	130	883	1,013
Kansas	45	284	329
Texas Panhandle	23	123	146
North Central Texas	91	400	491
East Central Texas	4	25	29
West Texas	68	258	326
Southwest Texas	71	155	226
East Texas	2	17	19
Gulf Coast	40	202	242
North Louisiana	57	126	183
Arkansas	11	52	63
Wyoming	24	134	158
Montana	21	96	117
Colorado	19	75	94
New Mexico	28	77	105
Utah	3	26	29
Total November	922	4,103	5,025
Total October	918	4,007	4,925
Difference	4	96	100

Note—In the following report the Section, Township and Range are given first; then the farm, the owner, the serial number of the well and the initial production of the well. In lines where the Section, Township and Range are missing the wells are located in the Sections, Townships and Ranges which appear next above in the report.

OKLAHOMA FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Carter	4	1,012	2	0
Cotton	9	686	2	0
Creek	41	1,010	13	4
Hughes	4	192	0	1
Kay	3	100	1	1
Muskogee	18	47	6	10
Okfuskee	17	628	7	3
Oklahoma	7	63,025	0	0
Okmulgee	10	491	2	2
Osage	26	1,021	4	8
Payne	7	1,215	2	2
Pontotoc	10	2,231	0	0
Pottawatomie	28	10,866	7	2
Seminole	47	20,231	14	2
Stephens	9	...	8	1
Tulsa	6	65	4	0
Wagoner	15	57	9	3
Miscellaneous	36	4,567	16	7
Total November	297	107,444	97	46
Total October	389	190,239	118	41
Difference	92	82,795	21	5

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	Ttl.
Carter	2	24	26
Cotton	0	10	10
Creek	11	56	67
Grady	2	6	8
Grant	2	13	15
Hughes	2	13	15
Kay	0	6	6
Logan	13	23	36
Lincoln	4	13	17
Muskogee	6	16	22
Oklahoma	6	161	167
Okfuskee	5	30	35
Okmulgee	5	21	26
Osage	8	22	30
Pawnee	4	15	19
Payne	0	13	13
Pontotoc	8	36	44
Pottawatomie	17	78	95
Seminole	13	205	218
Stephens	8	29	37
Tulsa	2	14	16
Wagoner	0	12	12
Miscellaneous	12	72	84
Total November	130	888	1,018
Total October	134	757	891
Difference	4	131	127

WELLS COMPLETED

CARTER COUNTY

30-1s-3w Hightower, Magnolia Pet. Co. 1 947
19-1s-3w Eason, Ven Mex Oil Co. 3 .. 65
21-2s-4w Martin, Magnolia Pet. Co. 1 .. dry
20-1s-3w Denny, F. W. Merrick et al 3 dry

Wells completed 4
Production 1012
Dry 2

COTTON COUNTY

34-1s-10w Lindsey, Bi State Oil Co. 1 .. dry
35-1s-10w Powell, Wirt Franklin Pet. Corp. 1 16
Rhone, Baldwin & Sultan 4 .. 160
1-2s-10w Patterson, Shasta Oil Co. 1.. 50
2-2s-10w Slogan, Shasta Oil Co. 6 .. 200
Chambers, Silurian Oil Co. et al 3 ..... dry
35-1s-10w Rhone, Baldwin & Sultan 5.. 60
35-1s-10w Chambers, Wirt Franklin Pet. Corp. 4 125
2-2s-10w Slogan, Shasta Oil Co. 7 75

Wells completed 9
Production 686
Dry 2

CREEK COUNTY

16-19- 9 Grayson, Gypsy Oil Co. 1 8
27-18- 8 Brown, J. W. Merritt et al 1.. dry
13-18-11 Barnett, Regal Oil Co. 10 5
17-17- 7 Tiger, Blackwell O. & G. Co. 12 45
10-17- 9 Bruce, Shell Pet. Corp. 5 50
13-17-10 Fulsom, A. B. Ice 8 60
17-17-10 Little Head, Reiter Foster Oil Corp. 1 45
26-17-10 Bucktrot, Central Commercial Oil Co. 1 ..... dry
25-19- 8 Jackson "B," The Texas Company 1 30
7-18- 7 Ben Vance, Magnolia Pet. Co. 6 15
20-18- 9 Grayson, Jackson & Wise 1 .. gas
13-17-10 Fulsom, R. O. Bailey 7 40
17-16- 9 Beaver, Texas Pacific Coal & Oil Co. 8 5
Beaver, Texas Pacific Coal & Oil Co. 9 10
25-15- 9 Schmidt, Silurian Oil Co. et al 1 ..... dry
16-14-10 Bear, E. L. Kistler 1-A ..... dry
17-19-9 Hutton, H. U. Bartlett 1-A .... dry
23-18- 8 Jackson, H. U. Bartlett 1 .... gas
23-17- 8 Walker, Skelly Oil Co. et al 1 dry
21-17- 9 Barjoche, Texas Pacific Coal & Oil Co. 1 10
30-17- 9 McIntosh, Sunray Oil Co. & Buckles 1-A ..... dry
14-17-10 Baker, The Texas Company 4.. 35
10-19- 7 Elmore, Producers & Refiners Corp. 1 ..... dry
14-17-11 Wildcat, Hancock & Foster et al 1-A ..... dry
24-17-11 Webb, H. W. Lampton 1-A .. dry
17-16- 9 Beaver, Texas Pacific Coal & Oil Co. 10 40
25-16-11 Long, Summitt Drilling Co. et al 2 25
34-16-11 Ross, Paraffine Oil Co. 6 10
Ross, Paraffine Oil Co. 7 7
30-15- 9 Connessenny, C. G. Tibbens 6.. 200
2-15-11 Grayson, Troy Oil Co. 12 60
3-15-11 Grayson, Whitefield Oil Co. 4 20
7-16- 9 Roberts, The Prairie O. & G. Co. 3 190
33-16-11 Peters, Sheridan Oil Co. 2 60
15-19- 9 Morgan, Pioneer Pet. Co. 5 .. gas
21-19- 9 Davis, McCulloch Oil Co. 1 .. dry
7-18- 7 Vance, Magnolia Pet. Co. 1 .. 30
33-18- 7 Freeman, Link Oil Co. 4 10
7-17- 8 Allen, Gem Oil Co. 1 ..... dry
12-17-11 Bruner, Sooner O. & G. Co. 5.. gas
3-16- 7 Talmase, Magnolia Pet. Co. 2.. dry

Wells completed 41
Production 1010
Dry 13
Gas 4
Gas production 7,000,000

HUGHES COUNTY

9-6- 8 Brumner, Gypsy Oil Co. et al 1. 42
5-6- 8 Tiger "B," Sinclair O. & G. Co. 1 110
12-7- 8 Walker, Independent O. & G. Co. 1 ..... gas
20-8-10 Hampton, The Prairie O. & G. Co. 4 40

Wells completed 4
Production 192
Gas 1
Gas production 40,000,000

KAY COUNTY

17-28-1w Mooney, Wentz Oil Corp. 17.. 100
25-28-1w Van Valkenbert, De Camp et al 1 ..... gas
3-27-2 Balzer, Parrish et al 1 ..... dry

Wells completed 3
Production 100
Dry 1
Gas 1
Gas production 500,000

MUSKOGEE COUNTY

35-15-18 Townsite, C. H. Lammers et al 1 ..... dry
1-14-18 Francis, W. J. Metzger et al 10 ..... dry
8-13-16 Jackson, Mazda Oil Co. 4 35
13-13-18 Kelly, E. Mills et al 2 ..... gas
14-13-18 Foreman, C. F. Ray et al 1-A.. gas
23-13-18 Jordan, H. D. Johnson et al 2 gas
17-15-17 Sango, Paul & Morgan 4 ..... gas
35-15-18 Townsite, H. L. Jolly 2 ..... dry
15-13-16 Bruner, Bement Oil Co. 1 .. gas
12-13-18 Kelly, Wilson & Barnes 1 .... gas
19-15-16 Russell, P. Boyle et al 2 12
5-14-18 Gaines, Tidal Oil Co. 10 .... dry
8-13-16 Jackson, P. O. Miller et al 2.. dry
13-13-18 Kelly, H. D. Johnston et al 1.. gas
14-13-18 Foreman, C. F. Ray et al 2 .. gas
28-16-15 Hawkins, John Aggas 3 ..... gas
8-15-15 N. Barnett, Bryan Pet. Co. 9.. gas
4-13-19 Carver, W. S. Mussellem 2 .... dry

Wells completed 18
Production 47
Dry 6
Gas 10
Gas production 24,243,000

OKFUSKEE COUNTY

32-11-11 Reynolds, Burke-Greis Oil 1.. dry
2-10- 9 Rice, E. L. Robinson 1 12
5-12-11 Harjo, Betty Ann Oil Co. 1 .. dry
31-11-11 Dindy "B," Mid-Continent Pet. Corp. 4 150
3-10-11 Barnett, W. L. Umburn 2 .... dry
18-10-11 McKinney, Barnsdall Oil Co. 1 dry
36-13-11 Luster, H. G. Fair et al 1 .... dry
32-12-10 Simmers, Barnsdall Oil Co. 1 gas
35-11- 9 Berryhill, E. L. Robinson et al 4 15
Berryhill, E. L. Robinson et al 5 15
15-11-11 Carter, Champlin O. & R. Co. 16 145
35-11-11 Tiger, Eagle Picher Lead Co. 3 gas
21-10-11 Buckley, Jarvis & Holm 2 .. 70
30-12- 9 Johnson, Sunray Oil Co. 1 .. dry
22-12-11 Wilson, Independent O. & G. Co. 1 221
30-11-11 Jackson, B. Foster et al 1 .... dry
31-11-11 Grayson, Mid-Continent Pet. Corp. 1 ..... gas

Wells completed 17
Production 628
Dry 7
Gas 3
Gas production 38,000,000

OKLAHOMA COUNTY

14-11-3w Childs, Jack Shaffer et al 1..7457
19-11-2w Button, I. T. I. Oil Co. et al 2 15,983
19-11-2w Fuzzell, I. T. I. Oil Co. et al 1 16330
30-11-2w B. Anderson, I. T. I. Oil Co. et al 1 5175
30-11-2w Stamper, Sinclair O. & G. Co. 1 9606
Kinter, Sinclair O. & G. Co. 1 1780
19-11-2w Hiddleston, The Prairie O. & G. Co. & T. B. Slick 3 6695

Wells completed 7
Production 63,025

OKMULGEE COUNTY

6-15-13 Brooks, J. H. Rebold 1 100
18-15-13 Barnett, Kirkland & Son 2 .. 15
17-13-13 Young, Hennessey et al 7 34
2-13-14 Tucker, Berry et al 1 ..... dry
20-12-14 Hawkins, A. McInturff 1 .... gas
26-13-14 Harris, Lowery Oil Corp. 14 dry
29-13-12 Palmer, The Prairie O. & G. Co. 2 300
6-15-12 Fish, L. C. Wheeler et al 3 .. gas
35-14-14 Anderson, C. D. Burns 15 25
20-15-13 Bell, J. A. Swindler 1 20

Wells completed 10
Production 491
Dry 2
Gas 2
Gas production 5,000,000

OSAGE COUNTY

20-29- 9 Winona Oil Co. 7 40
6-23- 9 A. G. Oliphant 4 40
9-20-10 Oklahoma Power & Water Co. 124 ..... gas
20-29- 9 R. L. Berlin 11 10
35-24- 8 J. A. Presbury et al 3 ..... dry
8-24- 9 I. T. I. Oil Co. 417 ..... gas
20-23- 8 I. T. I. Oil Co. 418 ..... gas
22-22-11 Barnsdall Oil & Branstetter 6 10
2-28-10 I. T. I. Oil Co. 422 ..... dry
11-26- 6 Vacuum Oil Co. 6 120
15-24- 8 McCune Wormser et al 4 250
20-24- 9 Tidal Oil Co. 7 20
36-23-10 I. T. I. Oil Co. 259 ..... dry
36-22- 8 L. G. Stanley 8 5
9-21- 9 Oklahoma Power & Water Co. 129 ..... gas
9-20-10 Oklahoma Power & Water Co. 125 ..... gas
29-20-11 Sand Springs Home Oil Co. 4 gas
22-27-11 Peters Pet. Corp. & P. & R. Corp. 4-A. 11
Peters Pet. Corp. & P. & R. Corp. 5 85
Peters Pet. Corp. 8 70
27-27-11 Peters Pet. Corp. & P. & R. Corp. 4 40
10-26- 8 Peters Pet. Corp. & P. & R. Corp. 1 120
22-24- 7 The Texas Company 2 200
5-21-12 Oklahoma Natural Gas Corp. 1,741 ..... gas
9-20-10 Oklahoma Power & Water Co. 126 ..... gas
9-20-10 Peters Pet. Corp. 1 ..... dry

Wells completed 26
Production 1021
Dry 4
Gas 8
Gas production 9,828,000

POTTAWATOMIE COUNTY

15-7-4 Richardson, Magnolia Pet. Co. 2. 475
21-7-4 Lynn, Magnolia Pet. Co. 1 500
9-8-5 Gossland, Gypsy Oil Co. 2 525
9-8-5 Smith, Sinclair O. & G. Co. 1.. 795
17-7-4 Green, Gypsy Oil Co. 6 825
9-8-5 Jordan, The Prairie O. & G. Co. 1 240
19-6-4 Laster, The Prairie O. & G. Co. & T. B. Slick 8 200
Carpenter, The Prairie O. & G. Co. & T. B. Slick 1 530
9-8-3 Wilson, Cal Cul Oil Co. 1 .... dry
8-8-5 Smith, Empire O. & R. Co. 3 .. 605
2-7-4 Weldfelt, I. T. I. Oil Co. 1 80
Weldfelt, I. T. I. Oil Co. 2 1050
14-7-4 Risenhoover, Magnolia Pet. Co. 4 25
15-7-4 Tartar, Magnolia Pet. Co. 2 2850
20-7-4 Sanders, Pierce Oil Corp. 1 11
22-7-4 Curly, Independent O. & G. & Darby Pet. Co. 2 ..... gas
Hines, Shell Pet. Corp. 2 ..... gas
25-7-4 Cherry, Phillips Pet. Co. 3 .... dry
27-7-4 Sanders, Tidal Oil Co. et al 1.. dry
28-7-5 Bourbonnais, Sunray Oil Co. et al 1 ..... dry
25-8-4 McCouven, Empire O. & R. Co. 1 dry
8-8-5 Smith, Amerada Pet. Corp. 1 .. 455
8-7-4 Rhodd, Twin State Oil Co. 1 ... dry
9-7-4 Robbins, Mid-Continent Pet. Corp. 2 105
16-7-4 Latimer, T. B. Slick & White White Eagle O. & R. Co. 3.. 600
21-7-4 Bettis, Darby Pet. Corp. 1 945
19-6-4 Alexander, T. B. Slick 2 50
Burrows, The Prairie O. & G. Co. & T. B. Slick 1 ..... dry

Wells completed 28
Production 10866
Dry 7
Gas 2
Gas production 14,000,000

PONTOTOC COUNTY

36-5-4 Burke, Denver Prod. & Ref. Co. 1 75
18-5-5 Robertson, American O. & R. Co. 3 700
Berry, Transcontinental Oil Co. 3 30
30-5-5 Lane, McMan Oil Co. 1 60
31-5-5 Bullard, Benedum & Trees Oil Co. 1 50
29-5-3 Smith, Delaney & King 1 160
30-5-5 Hatcher, Texas Pacific Coal & Oil Co. 2 416
31-5-5 Lowery, Benedum & Trees 1 .. 107
Mole, Benedum & Trees Oil Co. 6 500
32-5-5 Maulden, Superior Oil Co. 5 ... 133

Wells completed 10
Production 2231

PAYNE COUNTY

4-18-5 Searcy, Pure Oil Co. 1 ..... dry
9-18-5 Echo Hawk, Shaffer O. & R. Co. 2 430
4-18-5 Echo Hawk, Shaffer O. & R. Co. 2 755
Daws, Shaffer O. & R. Co. 1 30
Echo Hawk, Shaffer O. & R. Co. 1 ..... gas
Daws, Transcontinental Oil Co. 1 ..... gas
4-18-6 Freeman, Consolidated Drlg. Co. 1 ..... dry

Wells completed 7
Production 1215
Dry 2
Gas 2
Gas production 7,500,000

SEMINOLE COUNTY

11- 9-6 McMan, Carter Oil Co. 1 1255
15- 9-8 Polk, The Prairie O. & G. Co. 1 dry
9- 9-6 Grisso, The Prairie O. & G. Co. 1 ..... dry
11- 7-6 Renton, Gypsy Oil Co. 4 1392
23- 7-6 Cotche, Carter Oil Co. 5 195
Harris, Independent O. & G. Co. 14 ..... dry
18- 7-7 Naifer, Magnolia Pet. Co. 1 .. gas
7- 6-8 Aldridge, Carter Oil Co. 1 60
Davis, Carter Oil Co. 2 35
7- 9-7 Grisso, Shaffer O. & R. Co. 1.. dry
15- 9-7 Jonah, Blackwell O. & G. Co. et al 1 ..... dry
17- 9-7 Warrior, Sinclair O. & G. Co. & Continental Oil 3 10
4- 8-7 Reed, Magnolia Pet. Co. 4 .... dry
20- 8-7 Wolf, Magnolia Pet. Co. 1 ... 83
5- 7-7 Phillips, Sinclair O. & G. Co. 6. 750
11- 7-6 Baker, Blackwell O. & G. Co. 1-A ..... gas
36- 6-6 Betsy, The Prairie O. & G. Co. 1 dry
13- 5-7 Fleet, Blackwell O. & G. Co. 1-A 1410
14- 5-7 Harjo, Mid-Continent Pet. Corp. 2 1030
7- 6-8 Vanbuskirk, Blackwell O. & G. Co. 1 210
12-10-6 Chatkey, I. T. I. Oil Co. et al 1 dry
32-10-6 Marks, Amerada Pet. Corp. 1. dry
32-10-6 Varnum, Burke Greis Oil Co. & Darby Pet. Co. 1 319
6- 9-6 Shepherd, Carter Oil Co. 1 105
6- 9-6 Shepherd, Carter Oil Co. 2 ... 105
14- 9-6 Mayhue, The Texas Company 4. 625
18- 9-7 Stubbs, The Prairie O. & G. Co. 2 200
Stubbs, The Prairie O. & G. Co. 3 260
11- 9-7 Noble, The Prairie O. & G. Co. 1 45
2- 8-5 Rogers, Carter Oil Co. 2 2725
11- 8-5 Cluck, Empire O. & R. Co. 13.. 15
20- 7-6 Conner, Gypsy Oil Co. et al 1.. dry
6- 8-6 Melton, The Prairie O. & G. Co. 5 ..... dry
14- 7-6 Talley, The Prairie O. & G. Co. 5 100
5- 7-7 Phillips, Sinclair O. & G. Co. 7.2254
9- 7-7 Sakteke, Producers & Refiners Corp. 1 145
13- 6-7 Fleet, I. T. I. Oil Co. 1 ..... dry
23- 5-7 Jefferson, Sinclair O. & G. Co. 3 502
Jefferson, Sinclair O. & G. Co. 4 627
25- 6-6 Mingo, The Prairie O. & G. Co. & T. B. Slick 1 ..... dry
18- 9-6 Noble, Barnsdall Oil Co. 4 210
11- 7-6 Jackson, Carter Oil Co. 5 1325
23- 7-6 D. Hotulke, The Texas Company 8 ..... dry
24- 7-6 Walker, Carter Oil Co. 2 1835
Willie, Gypsy Oil Co. 1 772
5- 7-7 Smith, Mid-Continent Pet. Corp. 11 1325

24- 5-7 Joanna, Sinclair O. & G. Co. 3.. 317

Wells completed 47
Production 20,231
Dry 14
Gas 2
Gas production 30,000,000

STEPHENS COUNTY

34- 2-9w Barber, Pandem Oil Co. 1 ... dry
30- 1-8w Funk, Beaver Oil Co. 2 ..... dry
24-2s-8w Andrea, Pace et al 1 ..... dry
22-2s-7w Dilly, E. Parsons et al 1 .... dry
23-2s-7w Vass, Pace et al 1 ..... dry
26-2s-7w Horton, Pace et al 1 ..... dry
35-2s-7w Butler, Pace et al 1 ..... dry
12- 1-9w Collins, Meridian Gas Co. 1.. dry
8-2s-6w Andrea, Magnolia Pet. Co. 1.. gas

Wells completed 9
Dry 8
Gas 1
Gas production 39,000,000

TULSA COUNTY

24-17-14 Riverbed, E. D. Davis et al 6 dry
4-19-10 Brown, Glidden Oil Co. 1 .... dry
13-19-10 Anthis, Union Drlg. Co. 1 ... dry
18-19-12 Johnson, Superior Oil Corp. 2 dry
24-17-14 Davis, Bingham & Fleetwood 1 60
11-24-12 Gritts, Tidal Oil Co. 6 5

Wells completed 6
Production 65
Dry 4

WAGONER COUNTY

9-18-15 Bates, Mortimer et al 1 .... dry
5-17-18 Posey, J. A. Shearer et al 1.. dry
2-16-16 Bruner, Mitchell Oil Co. 2 ... dry
36-16-17 Brown, J. L. Dixon et al 3 .. 40
24-18-17 Barnett, C. F. Finefield 3 ... gas
6-16-16 Smith, O. F. Webb et al 2 ... dry
35-16-17 Marshall, Cherokee Public Service Co. 1-A ..... dry
9-18-15 Hewett, Barnes & Hanks 1-A 7
Hurd, Barnes & Hanks 1-A .. 10
11-18-15 Hall, W. C. Hatch 5 ..... dry
29-18-16 Prince, J. H. Striker 3 ..... dry
18-17-16 Murphy, Knox & Shouse 1 ... gas
34-17-18 Grayson, H. H. Orr 1 ..... gas
33-17-19 Rogers, Keener O. & G. Co. 1 dry
15-16-19 Ross, Western Gas & Electric Co. 1 ..... dry

Wells completed 15
Production 57
Dry 9
Gas 3
Gas production 2,750,000

MISCELLANEOUS COUNTIES

Grant County—
2-27-3w Utility, Consolidated Gas & Utility Co. 1 60

Grady County—
2- 4-8w Dryden, Public Service Co. of Okla. 3 ..... gas

Jefferson County—
3-7s-5w Seay, Simpson & Fell 1 ..... dry
16-7s-5w Jones, Sigler & McGinley 1 .. dry
29-6s-5w Seay, Bridwell Oil Co. 1 ..... dry
2-7s-7w Nesmith, Superior Oil Corp. 1 dry

Caddo County—
36- 6-10w C. Rowe, Magnolia Pet. Co. 2. 917

Latimer County—
10- 6-22 Hardaway, Le Flore County G. & E. Co. R. O. 5 ..... gas
11- 6-22 Hardaway, Le Flore County G. & E. Co. R. O. 6 ..... gas
Cole, Le Flore County G. & E. Co. R. O. 4 ..... gas
15- 5-18 Murray, Limestone O. & G. Co. 1 ..... gas

Kiowa County—
24- 7-17w Miller, Russell & Sloan 1 .... dry
13- 6-17w School, George Eshelman 1 .. 10
18- 6-16w Prough, Thomas Medlin 2 .. 2
Dittmar, George Eshelman 1 .. 10

Lincoln County—
20-17-3 Sasser, R. W. Willis et al 1 .. dry

Logan County—
30-19-4w McCully, Shell Pet. Corp. 11.1770
McCully, Shell Pet. Corp. 12.1,642

McIntosh County—
16-11-17 Coon, Western Natural Gas Co. 1 ..... dry
16-10-13 Carr, Spring Valley Oil Co. 1 dry

Coal County—
7- 2-8 Wiltsey, McGinley & Sigler 1. dry

Pittsburg County—
10- 7-18 Gumm, Colton & Lester 1 ... gas
28- 4-13 Jackson, Robert Galbreath 1. dry
15- 7-18 Carney, R. P. Lester 1 ..... gas

Tillman County—
34-4s-14w Riley, Riley et al 1 ..... dry

Marshall County—
14-5s-5 Taliaferro, Bilbo Oil Trust Co. 1 96

Pawnee County—
25-21-7 Herringford, Johnson O. & R. Co. 1 ..... dry

Nowata County—
12-25-14 Fee, Lula W. Heffner 17 26
Fee, Lula W. Heffner 18 19

Rogers County—
7-24-17 Fee, Wiser Oil Co. 17 ..... dry
30-24-16 Harnage, McWharter Drlg. Co. 1 ..... dry
12-24-16 Adams, Tidal Oil Co. 21 ..... dry
7-24-17 Fee, Wiser Oil Co. 11 ..... dry
15-24-17 Ferguson, Whitehill & Weible 7 2

Washington County—
25-27-13 Armstrong, C. P. Shertzer 12.. 10
27-27-13 Mode, F. E. Hartzel 13 3

Wells completed 36
Production 4567
Dry 16
Gas 7
Gas production 8,138,000

KANSAS FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Butler	7	315	4	0
Cowley	5	...	5	0
Elk	3	15	2	0
Greenwood	13	195	8	0
McPherson	6	1,882	1	0
Sedgwick	13	5,351	5	0
Sumner	5	75	4	0
Miscellaneous	30	543	10	2
Total November.	82	8,376	39	2
Total October .	98	16,061	42	2
Difference	16	7,685	3	0

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	Ttl.
Butler	3	28	31
Cowley	5	16	21
Elk	0	9	9
Ellis	3	7	10
Greenwood	1	30	31
Harvey	0	9	9
McPherson	9	16	25
Marion	0	9	9
Rice	1	8	9
Russell	2	6	8
Sedgwick	8	30	38
Sumner	2	15	17
Woodson	2	12	14
Miscellaneous	9	89	98
Total November	45	284	329
Total October	62	268	330
Difference	17	16	1

WELLS COMPLETED
BUTLER COUNTY

33-25-3 Clearwater, Milmac Oil Co. 1.. dry
8-26-7 Henson, Morgan et al 1 ..... dry
22-27-5 Cranston, Empire O. & R. Co. 12 200
6-28-6 Getter, Blaksley & Wentz 1 .. dry
24-27-3 Klinger, Aladdin, Pet. Co. 1... 100
8-27-6 Detrick, Richman & Reigle 2.. 15
19-27-4 Jones, E. W, Marland Inc. 1 .. dry

Wells completed 7
Production 315
Dry 4

COWLEY COUNTY

25-30-5 Ratts, T. B. Slick & Pryor & Lockhart 1 ..... dry
7-32-5 McEwin, Roth & Faurot 1 .... dry
27-33-3 Wright, Foster & Deal 1 .... dry
17-34-3 Baird, Shawver et al 6..... dry
12-34-6 Brubaker, Trees Oil Co. 1 .... dry

Wells completed 5
Dry 5

ELK COUNTY

32-30-11 Woodward, Croft & Frazier 1.. dry
5-31-9 Ware, Union Gas Co. et al 1 .. dry
14-31-10 Chaffin, Pure Oil Co. 7 15

Wells completed 3
Production 15
Dry 2

GREENWOOD COUNTY

28-23-11 Beal, Phillips Pet. Co. 5 80
35-23-11 Edwards, Eureka Oil Co. 1... dry
31-25-13 Souders, West Coast Leasing Co. 1 ..... dry
32-22-12 Steel, T. K. Simmons et al 1.. dry
22-24-12 Hunt, The Prairie O. & G. Co. 1 ..... dry
30-23-10 Martindale, Roth & Faurot 1.. 20
21-23-11 Laird, Empire O. & R. Co. 3.. dry
28-23-11 Beal, Independent O. & G. Co. 1 10
11-24-12 Hout, Houston Oklahoma Oil Co. 6 70
7-24-13 Barnes, Waltom Oil Co. 1 25
9-25-13 Hollister, Mendenhall et al 2.. dry
9-25-13 Ralston, Bisagno et al 3 .... dry
20-27-11 Peterson, Elk River Oil Co. 1.. dry

Wells completed 13
Production 195
Dry 8

McPHERSON COUNTY

1-20-2w Flook, Dixie Oil & Amerada Pet. Co. 1 625
1-20-2w Ritz, Shell Pet. Corp. 3 966
8-18-3w Rasmusson, McPherson County O. & G. Dev. 1 ..... dry
32-18-2w Bentson, Gardner Pet. Co. 1.. 25
18-19-2w Chinberg, McPherson O. & G. Dev. Co. & Shell Pet. 1 10
34-20-3w Gra.ton, T. B. Slick et al 1.. 256

Wells completed 6
Production 1882
Dry 1

SEDGWICK COUNTY

3-28-1w Buckles, Keller & Lewis 1 .. dry
1-26-1w Bright, Wentz Oil Corp. 4 .. 905
1-26-1w Wilson, Skelly Oil Co. & Davis 14 200
12-26-1w Hudson "A," Bu Vi Bar Pet. Corp. et al 1 1362
34-26-1w Sandusky, Boyle & Woods 1 .. dry
11-26-2 Erdwien, Shell Pet. Corp. 1..1288
15-26-2 Wilson, Deal & Skelly Oil 1.. 100
Baker, Graham Bros. 1 ..... dry
Lygrisse "B," Shell Pet. Corp. 4 ..... dry
2-27-1w Curry, Plains Oil Co. et al 1.. 171
4-25-2w Dix, E. R. Hawkins et al 1 .. dry
15-26-2 Brown, Shell Pet. Corp. 3....1200
15-26-2 Fischer, Shell Pet. Corp. 4 .. 125

Wells completed 13
Production 5351
Dry 5

SUMNER COUNTY

9-30-2w Love, Champlin O. & R. Co. 4 75
31-34-3w Clark, Mid-Cont. Pet. Corp. 1. dry
9-34-1 Welch, Laredo Oil Co. 1 .... dry
33-34-2 McCutcheon, Tidal Oil Co. 1.. dry
27-34-2 Wilson, Bu Vi Bar Pet. Corp. et al 1 ..... dry

Wells completed 5
Production 75
Dry 4

MISCELLANEOUS COUNTIES

Ellis County—
9-13-19w Stalling, Thomas & Moncrief 1 175

Barber County—
27-30-14w Pickens, Rowland et al 1 .... dry

Lyon County—
30-20-10 Welsh, Sheedy et al 1 18

Marion County—
34-20-2 Reizmig, Empire O. & R. Co. 1 dry
10-17-3 Urie, American O. & R. Co. 1.. dry

Rice County—
24-20-6w Johnson, Derby Oil Co. 1 .... dry

Bourbon County—
26-23-21 Davis, W. S. Fees 4 25
Davis, W. S. Fees 5 30
Davis, W. S. Fees 6 5

Montgomery County—
16-34-15 Hester, Steinberger et al 66 .. gas
25-31-16 Givens Est., Century O. & G. Co. 2 5
12-31-16 Augustine, Frank Blair 1 4
4-32-17 Smith, L. B. Dana 1 6
12-31-16 Augustine, Frank Blair 2 6
Augustine, F. M. Blair 3.... 10
16-34-15 Adams, Geo. Steinberger 21 .. gas
10-33-14 Gogher Oil Co., Hydraulic Oil Co. 14 ..... dry
2-34-13 Strand, J. P. Brady 1 2

Labette County—
10-34-17 Reiter, Ward, Geese & Townsell 2 10
Reiter, Ward, Geese & Townsell 2 ..... dry

Anderson County—
27-21-19 Killstadt, W. D. Hardee 12 .. 15
Marshall, R. Morrison 12 35

Neosho County—
34-27-19 Johnson, Ira D. Bigham 29 .. dry
Johnson, Ira D. Bigham 30 .. 5
14-27-19 Russell, W. M. Wells 11 2

Franklin County—
28-16-21 Gingrich, W. C. Hayhurst 18 .. 10

Coffey County—
11-23-14 Levering, Young et al 1 .... dry
12-23-14 Levering, Shaffer & Howell 1 dry

Dickerson County—
28-16-4 Biehler, Millmack Oil Co. 1 .. dry

Russell County—
31-12-15w Brungardt, The Prairie O. & G. Co. 1 180

Wells completed 30
Production 543
Dry 10
Gas 2
Gas production 200,000

PANHANDLE FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Carson	10	1,462	2	1
Childress	1	...	1	0
Gray	26	15,142	5	1
Hutchinson	6	675	0	0
Moore	1	...	0	1
Wheeler	11	...	2	9
Total November.	55	17,279	10	12
Total October .	55	16,503	9	20
Difference	0	776	1	8

Summary of Rigs and Wells Drilling

County—	Rigs	S.D.	Drlg.	Ttl.
Carson	8	10	10	28
Gray	10	27	34	71
Hutchinson	1	5	11	17
Moore	1	2	2	5
Wheeler	3	0	5	8
Miscellaneous	0	12	5	8
Total Nov.	23	56	67	146
Total Oct.	24	45	88	157
Difference	1	11	21	11

WELLS COMPLETED
CARSON COUNTY

B. F. Block, Continental Oil Co., 1.... 450
Mag. Pet. Co. Fee-C, Empire Gas & Fuel Co., 1 10
S. B. Burnett, Empire G. & F. Co., 21 .. gas
Mag. Pet. Co. Fee-C, Empire G. & F. Co., 1 ..... plugged
L. C. McConnell, Herrogan Oil Co., 1.. junked
B. F. Block, Ryan Con. Oil Co., 5.... 300
T. D. Lewis, The Texas Co., 4 82
J. L. Noel, The Texas Co., 2 120
E. Cooper, Reynolds et al, 2 300
B. F. Block, Ryan Con. Oil Co., 6 200

Completions 10
Production 1,462
Gas wells 1
Dry holes 2
Gas production 26,000,000

CHILDRESS COUNTY

B. F. Smith, Sloane et al, 1 ..... dry

GRAY COUNTY

B. F. Talley, Crabtree Drilling Co., 1.. dry
J. S. Morse-A, Osborne et al, 1 20
G. H. Saunders, Panhandle Ref. Co., 3..1,370
W. P. Dial, St. Claire Oil Co., 1 ..... dry
C. H. Rowe, St. Claire Oil Co., 1 .... dry
Cook-Faulkner, Danciger & Champlin, 2 150
M. S. Arnold, Danciger O. & R. Co., 1 .. 150
J. S. Morse, Bob Dunlop, 3 250
Eakins (Blasdel), Phillips Pet. Co., 1.. dry
Lincoln-Saunders, Shamrock O. & G. Co. 2 3,715
J. C. Vallmert, Anderson et al, 1 150
H. K. Beck, Danciger O. & R. Co., 6.. 200
Langham, Prairie Oil & Gas Co., 1 22
Cook-Faulkner, The Texas Co., 7 1,338
S. Faulkner, White Eagle et al, 2 940
W. Jackson, McMan Oil & Gas Co., 3.. 900
Purviance et al, Sun Oil Co., 4 1,700
J. M. Saunders-A, Big Gray Oil Co., 1.. dry
H. K. Beck, Danciger O. & R. Co., 7....1,050
Jackson, McMan Oil & Gas Co., 4 705
Jackson (Cox), Phillips Pet. Co., 1.... 7
A. Chapman, Skelly Oil Co., 1 600
Cook-Faulkner, Operators Oil Co., 8 ... gas
W. Jackson (North), Skelly Oil Co., 5.. 500
W. Jackson, Humble O. & R. Co., 3 985
J. E. Wright, Magnolia Pet. Co., 2..... 390

Completions 26
Production 5,142
Gas wells 1
Dry holes 5

HUTCHINSON COUNTY

Johnson Bros., Penny, 2 60
Diana Shaw, Prairie Oil & Gas Co., 5.. 10
C. R. Garner et al, Midwest Expl. Co., 1 220
C. R. Garner et al, Midwest Exp. Co., 2. 240
Cal Merchant, Prairie Oil & Gas Co., 4. 100
Johnson Bros., Devore et al, 1 40

Completions 6
Production 675

MOORE COUNTY

N. H. Read-A, Amarillo Oil Co., 1 .... gas

WHEELER COUNTY

Gooch, Upham Gas Co., 5 ..... gas
C. Linkey, Lone Star Gas Co., 2 ..... gas
Close, Murchison & Fain, 4 ..... gas
Ackley, Shell Pet. Corp., 1 ..... gas
S. Guest, Wischkamper et al, 1 ..... dry
I. Close-A, Martin & Debous, 1 ..... gas
I. Close, Murchison & Fain, 5 ..... dry
Cuddeback, The Texas Co., 1 ..... gas
C. Hicks (Martin), Lone Star Gas Co., 1 gas
C. Hicks, Staley & Wynn, 1 ..... gas
Gooch, Upham Gas Co., 6 ..... gas

Completions 11
Production ....
Gas wells 9
Dry holes 2
Gas production 242,000,000

WEST TEXAS FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Borden	1	...	1	0
Crane	4	908	0	0
Crockett	3	44	2	0
Ector	1	365	0	0
Fisher	4	366	3	0
Glasscock	10	6,125	4	0
Howard	22	6,257	2	0
Irion	2	...	2	0
Jeff Davis	1	...	1	0
Jones	1	...	1	0
Loving	1	329	0	0
Pecos	50	96,919	22	0
Reagan	2	241	0	0
Schleicher	1	...	1	0
Taylor	1	...	1	0
Upton	6	3,418	0	0
Ward	5	480	2	0
Total November.	115	115,452	42	0
Total October .	81	55,354	35	0
Difference	34	60,098	7	0

Summary of Rigs and Wells Drilling

County—	Rigs	S.D.	Drlg.	Ttl.
Crane	3	0	10	13
Crockett	3	0	3	6
Fisher	0	2	4	6
Glasscock	1	3	8	12
Howard	14	5	34	53
Irion	1	4	7	12
Jones	0	2	4	6
Pecos	24	22	43	89
Reagan	7	0	7	14
Runnels	0	0	2	2
Upton	4	1	2	7
Ward	5	4	8	17
Winkler	1	2	4	7
Miscellaneous	5	43	34	82
Total Nov.	68	88	170	326
Total Oct.	61	75	207	343
Difference	7	13	37	17

WELLS COMPLETED
BORDEN COUNTY

W. L. Miller, Louisiana Oil Ref. Co., 1.. dry

CRANE COUNTY

J. T. McElroy, Gulf Production Co., 68.. 270
Cowden Bros. & Co. C. C. Duffey et al, 6 128
University, T. P. Coal & Oil Co., 2 165
J. T. McElroy, Gulf Prod. Co., 67 345

Completions 4
Production 908

CROCKETT COUNTY

W. T. Noelke, Epeneaur et al, 2 ..... dry
J. S. Todd, W. A. Moncrief et al, 3 ... dry
L. P. Powell, The California Co., 3 ... 44

Completions 3
Production 44
Dry holes 2

ECTOR COUNTY

Kloh & Rumsey, R. R. Penn et al, 1 .. 365

FISHER COUNTY

Johnson, Roeser & Pendleton, 1 ..... dry
Texas Cement Plaster Co., Cranfill & Reynolds and Sun, 1 ..... dry
Stephens-B, The Texas Co., 1 ..... dry
Barrett, Cranfill & Reynolds Co., 1 366

Completions 4
Production 366
Dry holes 3

GLASSCOCK COUNTY

Hart Phillips, Sun Oil Co., 2 660
L. S. McDowell, Fuhrman Pet. Corp., 1. dry
J. J. Phillips, Schermerhorn Oil Co., 2.. 881
J. W. Baker, Kirby Pet. Co. et al, 1....1,080
J. J. Phillips, Kirby Pet. Co. et al, 1...1,080
A. L. Houston, Landreth Prod. & Tidal Oil Co., 1 ..... dry
R. C. Coffee, E. L. Smith Oil Co., 1 1,224
Hart Phillips, Sun Oil Co., 3 1,200
W. P. Edwards, Texas State Oil Co., 1.. dry
Kloh & Rumsey-B, Shell Pet. Corp., 1.. dry

Completions 10
Production 6,125
Dry holes 4

HOWARD COUNTY

Kloh & Rumsey, Continental Oil Co., 1. 600
H. R. Clay, Humble O. & R. Co., 5 140
Dora Roberts-B, Moody Corp., 18 20
Dora Roberts-E, Moody Corp., 19 50
H. R. Clay, Simms Pet. Co., 1 720
A. J. Hooks, Bristow & Merrick, 12 .. 98
W. R. Settles-A, Group No. 1 and Continental, 9 ..... dry
Kloh et al, Plymouth Oil Co., 5 250
Kloh et al, Schermerhorn Oil Co., 1.. 820
Dora Roberts-A, Shell Pet. Corp., 2 .. 216
H. R. Clay, Merrick & Lamb, 9 252
Dora Roberts, Amerada Pet. Corp., 13.. 7
W. R. Settles-A, American Maracaibo Co., 3 690
Otis Chalk-C, Continental Oil Co., 6 .. 63
Kloh & Rumsey, Continental Oil Co., 4.. 850

A. J. Hooks, Godley Oil Co., 2 40
Dora Roberts, Ward Oil Co., 15 100
Kloh & Rumsey, Continental Oil Co., 2.. 149
Clay, Gulf Production Co., 8 142
Dora Roberts-E, Moody Corp., 20 ..... dry
Kloh et al, Plymouth Oil Co., 6 250
Kloh et al, Plymouth Oil Co., 7 800

Completions 22
Production 6,257
Dry holes 2

IRION COUNTY

F. Tankersley, Fox & Miller, 1 ..... dry
F. B. Carter, Simms Pet. Co., 1 ..... dry

JEFF DAVIS COUNTY

J. Z. Means, Sam Means et al, 1 ..... dry

JONES COUNTY

Morrison, Sedgwick Oil & Gas Co., 1 .. dry

LOVING COUNTY

W. W. Hubbard, Lockhart & Co., 3 329

PECOS COUNTY

J. M. Grace, Gibson & Johnson, 1 ..... dry
University-B, Landreth Prod. Corp. and World Oil Co., 1 160
University-B, Landreth Prod. Corp. and World Oil Co., 2 752
Mrs. M. A. Smith-C, McMan Oil & Gas Co., 9 165
I. G. Yates-E, Mid-Kansas Oil & Gas Co., 3 145
Perry, Plymouth Oil Co., 3 10
D. K. Unsicker, Talbot, 1 ..... dry
J. A. McDonald, The Texas Co., 1 ..... dry
J. A. McDonald, Tidal Oil Co., 2 ..... dry
Wangerin Est., Condor Oil Co., 1 ..... dry
Mrs. M. A. Smith, Humble Oil & Refg. Co., 11 912
University-C, Landreth Prod. Corp., 2 .. 1,399
Mrs. M. A. Smith, Mid-Kansas Oil & Gas Co., 7 70,248
J. L. Neville, Red Bank Oil Co., 1 .. dry
Geo. Brown, B. J. Spikes, 1 ..... dry
Mrs. M. A. Smith, Lse. 1, Sec. 37, The California Co., 4 1,608
University (Landrum), The California Co., 1 172
J. K. P. Campbell, The Texas Co. et al, 1 ..... dry
W. Courtney, Phillips Pet. Co., 2 277
M. A. Smith et al Tr-B, Gulf Production Co., 20 8,736
University-A, Landreth Prod. Corp., 2 . 425
Mrs. M. A. Smith-C, McMan Oil & Gas Co., 8 1,200
J. A. McDonald, Milham Expl. Co., 1 .. dry
Mrs. M. A. Smith, Shell Pet. Corp., 5 .. 60
Mrs. M. A. Smith, Lse. 1, Sec. 21, The California Co., 5 2,874
University-A, Continental Oil Co., 5 .. 570
Kansas City & Ft. Stockton Lnd. Co., Cosby Prod. & Roy. Co., 1 ..... dry
Pecos River Bed, Grayburg Oil Co., 3 .. dry
Turney et al, J. W. Grant et al, 1 ..... dry
J. A. McDonald-A, Landreth Prod. Corp., 2 ..... dry
University-C, Landreth Prod. Corp., 2 1,430
University-G, Landreth Prod. Corp., and Henshaw Bros., 2 1,227
University-B, Landreth Prod. Corp. and World Oil Co., 4 2,904
University-C, Shell Pet. Corp., 4 237
University, Taylor-Link Oil Co., 7 377
J. C. Trees, Trees Oil Co., 2 ..... dry
University-A, Continental Oil Co., 4 85
J. A. McDonald, Henshaw Oil Corp., 1 . dry
University, Henshaw Bros. et al, 1 42
J. A. McDonald, Independent O. & G. Co. et al, 1 ..... dry
J. A. McDonald, Independent O. & G. Co. et al, 2 ..... dry
Cunningham, Landreth Prod. Corp., 1.. dry
University-C, Landreth Prod. Corp., 1 .. 30
University-C, Landreth Prod. Corp., 3 .. 25
University-G, Landreth Prod. Corp. and Henshaw Bros., 1 48
University-B, Landreth Prod. Corp. and World Oil Co., 3 801
T. F. Clarkson, W. A. Moncrief, 1 .... dry
J. A. McDonald, The Texas Co., 2 .... dry
A. A. Parsell, McDonald et al, 1 ..... dry
R. D. Webb, R. D. Webb, 2 ..... dry

Completions 50
Production 96,913
Dry holes 22

REAGAN COUNTY

University, Big Lake Oil Co., 171 125
University, Skelly Oil Co., 5 116

Completions 2
Production 241

SCHLEICHER COUNTY

J. F. O'Harrow, J. F. O'Harrow, 1 .... dry

TAYLOR COUNTY

Allen, Condor Pet. Co., 1 ..... dry

UPTON COUNTY

Ed. S. Hughes, White Eagle Oil & Refg. Co., 2 2,400
Ed. S. Hughes Co., "B" Tr-B, Gulf Production Co., 2 70
Ed. S. Hughes, Pure Oil Co., 2 63
A. S. Burleson, Dixie Oil Co., 32 164
J. H. Shirk, T. P. Coal & Oil Co., and Humble Oil & Ref. Co., 1 605
J. F. Lane-A, T. P. Coal & Oil Co. 15.. 116

Completions 6
Production 3,418

WARD COUNTY

Hutchings Stock Assn., Gulf Prod. Co. 2 150
J. F. Boogher, Alpine Oil & Dev. Co., 1 32
L. Daugherty-B, Gulf Production Co., 2 dry
Pecos Mercantile Co., Penn & Atlantic, 1 298
J. Sealy, Continental Oil Co., 2 ..... dry

Completions 5
Production 480
Dry holes 2

NORTH CENTRAL TEXAS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Archer	44	1,200	26	0
Baylor	2	42	1	0
Brown	48	2,475	26	1
Callahan	5	...	5	0
Clay	10	252	6	0
Coleman	45	5,453	16	4
Comanche	5	...	4	1
Cooke	16	719	8	0
Denton	2	...	2	0
Eastland	19	110	13	1
Erath	1	...	1	0
Foard	3	4	1	1
Grayson	2	...	2	0
Jack	12	826	5	0
Montague	9	307	2	0
Palo Pinto	4	13	2	1
Shackelford	28	642	16	1
Stephens	12	31	7	4
Throckmorton	1	...	1	0
Wichita	38	800	25	0
Wilbarger	48	6,176	11	0
Young	52	1,681	32	0
Total November	406	20,729	212	14
Total October	342	15,104	167	6
Difference	64	5,625	45	8

Summary of Rigs and Wells Drilling

County—	Rigs	S.D.	Drlg.	Ttl.
Archer	18	10	24	52
Brown	11	13	22	46
Callahan	2	3	9	14
Coleman	11	8	14	33
Cooke	4	8	10	22
Clay	0	0	5	5
Eastland	3	7	27	37
Erath	0	3	6	9
Haskell	0	2	0	2
Jack	5	4	22	31
Montague	3	0	2	5
Palo Pinto	2	2	6	10
Shackelford	4	2	11	17
Stephens	0	3	14	17
Throckmorton	0	1	1	2
Wichita	11	3	25	39
Wilbarger	8	23	48	79
Young	4	14	18	36
Miscellaneous	5	18	12	35
Total Nov.	91	124	276	491
Total Oct.	77	135	288	500
Difference	14	11	12	9

WELLS COMPLETED

ARCHER COUNTY

Netherton-A, Paul Trahan, 1 ..... dry
Harrison, Abercrombie et al, 1 ..... dry
McClure, Douglas Oil Co., 2 85
Kunkel, Humble Oil & Refg. Co., 9 ... 70
Horrey (Chandler), Moran Drlg. Co.-Golding & Cochran, 1 60
Matlock, L. O. Nix, 1 ..... dry
Cent. Hanover Bank & Trust Co., Panhandle Refg. Co., 1 ..... dry
Brom, Prairie Oil & Gas Co., 1 ..... dry
Ward, Stump, 1 ..... dry
"Ports" Wilson, Barnsdall Oil Co., 1.. dry
Graham, L. T. Burns, 1 ..... dry
Wilson, Hedrick-Camp Drlg. Co. 1 204
Wilson, Payne et al, 1 ..... dry
Lyles, Shappell Oil Co., 13 15
Bearden, Consolidated Oil Co., of Texas, 1 ..... dry
McClure, Douglas Oil Co., 3 ..... dry
O'Donnell, Gilliland & Rosser, 2 ..... dry
Deitrich, Goldsmith et al, 2 100
Kunkel, Reeder et al, 5 55
Wilson-P, Burns et al, 2 ..... dry
Moss, E. J. Stump et al, 1 ..... dry
Scott, Carter, 1 ..... dry
Cowan Est., Jack Clark, 1 ..... dry
Falls Co. Fee, F. P. Cullum, 1 38
Logan, Key & Leath, 1 ..... dry
Vernon, E. B. Madden & Stump, 1 .... dry
Kunkel-B, Pet. Prod. Co. et al, 13 20
Taylor-B, W. C. Young and The Texas Co., 1 11
Hayter, W. D. Cline et al, 1 ..... dry
Hamilton, Gardner et al, 1 ..... dry
Deitrich, Goldsmith et al, 3 160
Brown & Smith, Moran Drilling Co. and Golding & Cochran, 1 40
S. L. Scott, Moran Drilling Co. and Independent O. & G. Co., 3 ..... dry
Wilson-B, Barnsdall Oil Co., 17 96
Kemp, L. T. Burns et al, 1 ..... dry
Parrish Bros., L. T. Burns et al, 1 .... dry
Wilson-P, L. T. Burns, 3 ..... dry
Thompson, P. F. Gwynn et al, 8 ..... dry
Lyles, Shappell Oil Co., 12 30
McClure, Douglas Oil Co., 4 35
Young, W. R. Duke et al, 1 160
Harris, Hedrick-Camp Drilling Co., 1.. dry
Williams, Peacock & Tedford, 1 8
Lauster, Pet. Prod. Co. and Perkins & Cullum, 1 13

Completions 44
Production 1,200
Dry holes 26

BAYLOR COUNTY

Waggoner-FF, Fain-McGaha Oil Corp. 1 dry
Portwood, Consolidated Oil Co., 2 42

Completions 2
Production 42
Dry holes 1

BROWN COUNTY

Kessler, Buder 5 150
Munselle, Buder 5 ..... dry
Hickman, Gilman & McMurray 7 ..... dry
Cannon-A, Anna B. Gordon 2 380
Cannon-A, Anna B. Gordon 3 300
Dabney, Gore & Brown 1 ..... dry
Munselle, Humble O. & R. Co. 3 25
Cannon, Owens, Inc., et al 6 ..... dry
George, E. L. Smith Oil Co. 10 150
Kessler, The Texas Company 10 15
McDonald, Cranfill & Reynolds 1 ..... dry
Kessler, Buder 6 250
Duff, Lloyd Oil Corp. 6 5
Williams-B (formerly A), Prairie O. & G. Co. 7 ..... dry
George, E. L. Smith Oil Co. 12 510
Johnson, The Texas Company 4 150
Hickman-D, Ven-Mex Oil Co. 8 200
Giddings, Bowers et al 2 5
Whiteside, Gordon 1 ..... dry
Armstrong, Gully 1 ..... dry
Carter, Humble O. & R. Co. 1 67
Kilgore-A, Humble O. & R. Co. 9 40
Cannon, S. B. Owens, Inc., et al 7 .... dry
Willis, Paramount O. R. Co. 1 ..... dry
Dabney, Beasley et al 1 ..... dry
White, Murray 1 ..... pigd
Robbins, Paramount O. R. Co. 1 ..... dry
Cross, American Maracaibo Co. 2 ..... dry
Kessler, Buder 7 ..... dry
Kessler, Buder 8 ..... dry
Munselle, Buder, trustee 7 25
Newton, Cross Cut Corp. 1 ..... dry
Burnett, Herring 1 ..... dry
Turner, Sawyer 1 ..... gas
George, E. L. Smith Oil Co. 11 ..... dry
Kessler, The Texas Company 11 115
Hays, French 1 ..... dry
Martin, Humble O. & R. Co. 1 15
Martin, Texcal Oil Co. 3 ..... dry
Miller, Bearman et al 7 20
Ellsberry, Crabb & McNeil 6 25
Naron, Daniels et al 1 ..... dry
Teston, Gilman, McMurray et al 21 (key well) 8
Munselle, Humble O. & R. Co. 4 20
Bryson, Kessler et al 1 ..... dry
Kessler, E. L. Smith Oil Co. 2 ..... dry
Gaines, Stout, Crabb & McNeil 1 ..... dry
Kilgore Bros., Young Bros., Alexander et al 13 ..... dry

Completions 48
Production 2475
Dry holes 26
Gas wells 1
Gas production 6,000,000

CALLAHAN COUNTY

Windham, Condor Pet. Co. 2 ..... dry
Alexander, Sec. 24, Campbell 1 ..... dry
Hinds, Hartley 1 ..... dry
Finley, The Texas Company 2 ..... dry
Williams, Oyster & Rife 1 ..... dry

Dry holes 5

CLAY COUNTY

Byers & Co., Hickman & Heydrick et al 1 28
Stine et al, Lone Star Gas Co. 23 25
Byers & Co., Art et al 1 111
Byers & Co., Art et al 2 ..... dry
Byers & Co., Merrick et al 1 88
Boddy, Texas Dev. Co. 1 ..... dry
Stine et al, Lone Star Gas Co. 24 ..... dry
Stine et al-D, Mid-Continent Holding Co. 2 ..... dry
Byers & Co., Art et al 3 ..... dry
Mason, Mayfield et al 1 ..... dry

Completions 10
Production 252
Dry holes 6

COLEMAN COUNTY

Newsom, Eastland Oil Co. 1 ..... dry
Keeney, Midwest Explin. Co. 6 20
Crowder, Permian Oil Co. and Gibson & Johnson 2 15
Crowder, Permian Oil Co. and Gibson & Johnson 3 548
Morris, Levi Smith 4 60
Morris, Levi Smith 5 650
Crowder, Tower & McKanna 6 185
Morris, White Eagle O. & R. Co. 3 100
Morris, White Eagle O. & R. Co. 9 250
Morris, White Eagle O. & R. Co. 11 ... 125
Morris, White Eagle O. & R. Co. 15 ... 150
Morris, White Eagle O. & R. Co. 20 ... 200
Overall, Continental Oil Co. et al 6 6
Haas, Elrod, Bebout & Sullivan 5 50
Stewardson, Joines et al 1 30
Williamson, Taylor-Link Oil Co. 1 .... dry
Keeney-A, Eastland Oil Co. 6 (key well) gas
Crowder, Permian Oil Co. et al 1 600
Crowder, Permian Oil Co. et al 4 12
Hall, Prairie Oil & Gas Co. 1 ..... dry
Crowder, E. L. Smith Oil Co. 1 ..... dry
Morris, Levi Smith 2 100
Morris, Levi Smith 6 150
Morris, Levi Smith 8 720
Crowder, Tower & McKanna 5 326
Jennings, Anzac Oil Corp. 1 ..... gas
Hutchings, Jamison-Pollard & Forrester 1 ..... gas
Cannon, Drake & Cameron 1 ..... dry
Crowder, Permian Oil Co. et al 5 ..... dry
Morris, White Eagle O. & R. Co. 32 ... 250
Brooks, May et al 1 ..... dry
Morris, Magnolia Pet. Co. 23 ..... dry
Eddington, Morrison & St. John 2 .... dry
Strozier, Praskey et al 1 ..... dry
Morris, Levi Smith 7 300
Porter, Tower & McKanna 1 ..... dry
Weaver, Vacuum Oil Co. et al 4 256
Morris, White Eagle O. & R. Co. 28 ... 200
Campbell, Cunningham 1 ..... dry
McAdams, Dozier & Humphreys 2 ..... dry
Crowder, Tower & McKanna 3 150
Weaver, Vacuum Oil Co. et al 5 ..... dry
Haas, Gutzman & Aldrich 1 ..... gas
Rohn, McDonald, Campbell & Gwinnup 1 ..... dry
Baker, Simon & Jones 1 ..... dry

Completions 45
Production 5453
Dry holes 16
Gas wells 4
Gas production 9,983,000

COMANCHE COUNTY

Faulkner, Humble O. & R. Co. 1 ..... gas
Sanger Bros., S. B. Owens, Inc., et al 1 dry
Owens, Putnam 1 ..... dry
J. M. Mathis, Owens, Inc., et al 1 .... dry
Bryson, Sun Oil Co., et al 1 ..... dry

Completions 5
Dry holes 4
Gas wells 1
Gas production 2,200,000

COOKE COUNTY

Huggins, Danciger O. & R. Co. 12 152
Judy, Fain-McGaha Oil Corp. 1 ..... dry
Field & Bowers, Shell Pet. Corp. 7 70
Huggins, Colline Oil Co. 4 115
Aldridge, Faith Oil Co. 1 ..... dry
"Coker" Franklin, Kewanee O. & G. Co. 1 ..... dry
Burns, Kewanee O. & G. Co. 1 ..... dry
Marshall est., Russell 1 ..... dry
Huggins, Danciger O. & R. Co. 15 72
Pembroke, Kewanee O. & G. Co. 1 .... dry
Wheelock-B, Lloyd Oil Corp. 2 ..... dry
Huggins, Danciger O. & R. Co. 14 96
Price, Pet. Producers Co. 1 ..... dry
Wheelock, Simons-Crowley et al 2 15
Huggins, Colline Oil Co. 5 129
Timmis-B, Kewanee O. & G. Co. 8 70

Completions 16
Production 719
Dry holes 8

DENTON COUNTY

Miller, Fain-McGaha Oil Corp. and Mc-Means 1 ..... dry
J. H. Hughes, W. E. Scherle 1 ..... dry

Dry holes 2

EASTLAND COUNTY

Webb, Davis et al 1 ..... dry
Dunham, Grose 1 10
Casey, Mook-Texas Oil Co. 1 ..... dry
Coon, States Oil Corp. 3 10
Spencer-B, Forster et al 1 ..... dry
Davis, Hopkins et al 1 ..... dry
Holcomb, Lewis & Co. 3 40
Barton, Lone Star Gas Co. 1 ..... dry
Durecher, T. P. Coal & Oil Co. 2 ..... dry
Hough et al, Arab Gasoline Corp. et al 1 ..... dry
Turner, Texwa Oil Co. and Kirk 4 32
Lyerla, Hoffman & Page Co. 3 18
Kincaid & Raney, Lobaugh et al 1 .... gas
Stamps, Warner-Quinlan Co. 1 ..... dry
Caudle, Looker 1 ..... dry
Fox, Gholson et al 3 ..... dry
Connelle, Arab Gasoline Corp. 1 ..... dry
Spencer & McGee, Texwa Oil Co. and States Oil Corp. 2 ..... dry
Hitson, Warner-Quinlan Co. 1 ..... dry

Completions 19
Production 110
Dry holes 13
Gas wells 1
Gas production 1,952,000

ERATH COUNTY

Mauldin, Associated Prod. Co. 1 ..... dry

FOARD COUNTY

Johnson, Humble O. & R. Co. 1 ..... dry
Matus, Humble O. & R. Co. 1 ..... gas
Johnson, Wichtex Oil Co. et al 1 4

Completions 3
Production 4
Dry holes 1
Gas wells 1
Gas production 1,500,000

GRAYSON COUNTY

Taylor, Biltmore Oil Co. 1 ..... dry
Conn, Claude Bell et al 1 ..... dry

Dry holes 2

JACK COUNTY

Moore, J. B. Bell Drlg. Co. 1 ..... dry
Loving, Shabay et al 1 ..... dry
Piemona, Coombs & Rogers 1 7
Eaton & Daniels, Panhandle Ref. Co. 1 120
Dougherty, F. H. E. Oil Co. 4 30
Raley, Hi-Land Oil Co. 1 80
Kuykendall, Huffman & Lydecker 1 .. dry
Newman, Osage Oil Corp. 1 ..... dry
Ezell, Shaw Oil Co. 2 ..... dry
Raley, Boller et al 1 155
Dougherty, The Texas Company 2 72
Ezell, L. C. Harper 1 362

Completions 12
Production 826
Dry holes 5

MONTAGUE COUNTY

King, Wood-Benton and Lesh & McCall 1 ..... dry
Salmon-D, Arco Oil Co. 1 35
Cunningham et al, Barnsdall Oil Co. 2 27
Edmondson, Bridwell Oil Co. 10 92
Salmon-D, Arco Oil Co. 2 60
Cunningham et al, Carter & Rycade 10 25
Howard, Continental Oil Co. 25 34
Cunningham-C, Continental and Bridwell Oil Co. 1 54
Cobb-A, George L. Pace 1 ..... dry

Completions 9
Production 307
Dry holes 2

PALO PINTO COUNTY

Neal, Neely & Halbert 1 ..... dry
Carter, The Prairie O. & G. Co. and Montgomery 1 ..... dry
Stuart & Son., T. P. Coal & Oil Co. 162 12
Satterfield hrs., Thomas et al 1 ..... gas

Completions 4
Production 12
Dry holes 2
Gas wells 1
Gas production 1,500,000

SHACKELFORD COUNTY

Tuton, Combest Oil Co. 1 ..... dry
Alexander, Frizzell & Smalley 1 15
Herron, Tom James 1 ..... dry
Nail, Moutray Oil Co. 1 ..... dry
Nail, Callahan et al 9 ..... dry
Matthews, Ducker & Navarro Oil Co. 1 dry
Matthews-B, Dull-Earls Texas Co. 3 .. 300
Davis-A, S. B. Owens, Inc., et al 2 .... dry
Black Bros., Robinson 1 ..... dry
Reynolds, Texas Consolidated Oil Co. 3 12
Hatcher, Callihan & Carter 1 ..... dry
Matthews, Engle Bros. 5-A ..... dry
Dawson et al, Phil French 2 ..... dry
Alexander, Frizzell & Smalley 2 15
Nail, Moutray Oil Co. 2 ..... dry
Matthews, Tannehill et al 6 194
Dodson, Van Zant & Eldridge 2 ..... dry
Hennessy-B, Campbell et al 1 ..... dry
Todd, Caperton 1 ..... dry
Davis, Grisham-Hunter Corp. 4 12
Davis, Midwest Explin. Co. 3 30
Alexander, Scott & Walker 1 ..... gas
Dyer, Southern Pet. Explin. Co. 6 12
Russ-Webb, Big State Oil Co. 14 ..... dry
Clark, Hart & Gist 1 30
Davis, Merry Bros. & Perini and Tidal 1 ..... dry
Newell, Tannehill Oil Co. 27 15
Reynolds-B, Texas Cons. Oil Co. 4 7

Completions 28
Production 642
Dry holes 16
Gas wells 1
Gas production 2,000,000

STEPHENS COUNTY

Hawley, Tripplehorn Bros. 1 ..... dry
Swenson, Grantor Oil Co. 36 20
Parks-A, The Texas Co. 46 ..... dry
Manning, Bateman & Co. 1 ..... dry
Swenson, Grantor Oil Co. 35 ..... dry
Henry, Lone Star Gas Co. 3 ..... gas
Hart et al, Ashe Synd. 3 ..... dry
Veale-C, Prairie Oil & Gas Co. 1 .... gas
Allison, Grace et al 1 ..... dry
Norton, Pace & Ward 4 ..... gas
Coody, Chastain, Donley & Vacuum 1 .. dry
Calloway, Lone Star Gas Co. 2 ..... gas

Completions 12
Production 31
Dry 7
Gas 4
Gas production 16,258,000

THROCKMORTON COUNTY

Gathright, Magnolia Pet. Co. 1 ..... dry

WICHITA COUNTY

Chilson, Jno. Dixon 1 ..... dry
Crudup, Hi-Land Oil Co. 3 125
Wilkerson, Mid-Cont. Holding Corp. 4.. dry
Wilkerson, Mid-Cont. Holding Corp. 5.. 65
Wilkerson, Mid-Cont. Holding Corp. 6.. 35
McCormick, Spikes & Temple 1 ..... dry
Woodward, Bateman & Dingee 1 .... dry
Kemp & Kempner, British American et al 12 ..... dry
Bishop-C, Comac & Prairie 1 ..... dry
Goetze, Cunningham et al 1 ..... dry
Waggoner Bros., Keller 4 ..... dry
Chilson-E, Omohundro et al 1 ..... dry
Pace-B, Omohundro et al 1 ..... dry
Nance, Ryan Pet. Corp. 110 ..... dry
Borscheidt, Turman Oil Co. 3 ..... dry
Barton, Turner & Consolidated 1 .... dry
Norwood, Brown & Lickey 1 ..... dry
Crudup-B, Star Drilling Co. 2 160
Whittenbach, Coffey & Brewer 1 .... dry
Burt et al, Humble O. & R. Co. 1 .... dry
Waggoner-Bros-C, T. F. Hunter 9 .... dry
Kemp & Kempner, McCarty Oil Co. 18 dry
Burnett et al-A, Panhandle Refg. Co. 11 4
Waggoner Bros., E. J. Stump & Co. et al 1 ..... dry
Kemp & Kempner-A, Arkansas Fuel Oil Co. 22 80
Waggoner Bros., Cooper & Mishler 15.. 15
Waggoner Bros.-B, Golding & Cochran 1 20
Fisher, Merrick Drilling Co. 1-D .... dry
Burns-Gates, Hi-Land Oil Co. et al 1.. 46
Crudup-B, Star Drilling Co. 3 ..... dry
Kemp & Kempner-B, Arkansas Fuel Oil Co. 32 65
Burnett et al, Bridwell Oil Co. 5 .... dry
Foster & Allen, Couper 1 ..... dry
Gibson, Everts & Jamison 2 30
Nance, Ryan Pet. Corp. 111 ..... dry
Volkart, Sheldon & Jamison 1 130
Whittenbach, Sheldon & Venmex 1 .. 25
Ferguson, Underwood Drilling Co. 1 .. dry

Completions 38
Production 800
Dry 25

WILBARGER COUNTY

Waggoner-B, Barkley & Meadows 3 20
Waggoner-H, Bradstreet Co. 1 45
Waggoner-T, Consolidated Oil Co. 1 .. dry
Waggoner, Davis Oil Corp. 2 405
Waggoner-C, Easter Oil Co. 4 80
Waggoner-A, Empire G. & F. Co. 16 .. 225
Waggoner-A, Empire G. & F. Co. 17 .. 210
Waggoner-HH, Fain McGaha Oil Corp. 1 ..... dry
Waggoner-B, Lewis Prod. Co. 8 85
Waggoner-A, Simpson Fell Oil Co. 3 .. 32
Waggoner-E, Staley-Wynne & Co. 4.. 129
Waggoner-E, Staley-Wynne & Co. 5.. 87
Waggoner-C, Bradstreet Co. 2 50
Waggoner-C, Bradstreet Co. 3 285
Waggoner-D, Cosden & Co. 3 870
Waggoner-F, Dixie Oil Co. 1 ..... dry
Waggoner-C, Empire Gas & Fuel Co. 16 145
Waggoner-Allman, Gray Back Dev. Co. 2 ..... dry
Waggoner-King, Gray Back Dev. Co. 1 38
Waggoner-B, Lewis Prod. Co. 7 ..... dry
Waggoner-G, Staley Wynne & Co. 12.. dry
Waggoner-G, Staley Wynne & Co. 15 .. 175
George, Zenith Oil Co. 1 85
Waggoner-D, Cosden & Co. 4 600
Waggoner-A, Empire G. & F. Co. 15 .. 57
Waggoner-B, Empire G. & F. Co. 24 .. 114
Waggoner-C, Empire G. & F. Co. 9 .... dry
Waggoner-Y, Fain-McGaha Oil Corp. 6 dry
Waggoner-A, Knight 6 ..... dry
Waggoner-H, Shaw Oil Co. 1 ..... dry
Waggoner-A, Simpson Fell Oil Co. 4.. 123
Waggoner-J, Waggoner Refg. Co. 12.. 90
Waggoner-B, Empire Gas & Fuel Co. 23 125
Waggoner-W, Fain McGaha Oil Corp. 19 165
Waggoner-AA, Fain McGaha Oil Corp. 4 75
Waggoner-GG, Fain McGaha Oil Corp. 1 20
Waggoner, The Texas Co. 366 ..... dry
Waggoner, Davis Oil Corp. 3 500
Waggoner-D, Easter Oil Co. 1 36
Waggoner-C, Empire Gas & Fuel Co. 11 15
Waggoner-L, Fain McGaha Oil Corp. 14 140
Waggoner-J, Golding & Cochran et al 3 80
Waggoner-Smith-B, Grayback Dev. Co. 1 130
Waggoner-E, Shaw Oil Co. 6 58
Waggoner-G, Staley Wynne & Co. 16 .. 75
Waggoner-S, Staley Wynne & Co. 3 .. 150
Waggoner-J, Waggoner Refg. Co. 13.. 30
Waggoner-P, Waggoner Refg. Co. 2.. 626

Completions 48
Production 6175
Dry 11

YOUNG COUNTY

Johnson, Allday & Beavers 1 ..... dry
Garvey, Atlantic & Rogers 1 ..... dry
Cullers, Bridwell Oil Co. 4 5
Cullers, Bridwell Oil Co. 5 ..... dry
Owens, Hawkins et al 7 35
Jones, Inman & Lisle 1 ..... dry
Ward, Panhandle Refg. Co. 1 ..... dry
Carpenter, Parks et al 7 ..... dry
Price, Williams 1 ..... dry
Cullers, Wise & Porterfield 2 8
Williams, Long et al 1 135
Allen, Paull Oil Co. 5 ..... dry
Thompson, Paull Oil Co. 3 ..... dry
Eichelberger, Combs & Rogers 1 .... dry
Deitrich, Consolidated Oil Co. 1 ..... dry
Cox, Cox & Mayer et al 1 ..... dry
Kunkel, Goldsmith & King Royalty Co. 2 225
Weichman, Gwynn 1 ..... dry
Shatto, Riggs & Williams 2 ..... dry
Lowe, Sorrels & Jackson 1 ..... dry
Cullers, Wise & Jackson 3 30
Kunkel, Goldsmith & King Royalty Co. 4 ..... dry
Inman, Gose & Waggoner 1 ..... dry
Dean, Holbrook & Woods 6 ..... dry
Kunkel 1, Madden & Hunt 2 ..... dry
Bailey, Nicks & Stump 1 25
Prideaux-D, Panhandle Refg. Co. 4.. dry
Cullers, Parks 2 20
Fishers, Reed Wootten et al 1 ..... dry
Loftin, Smith Chandler et al 1 ..... dry
Kunkel, United Producers Co. 3 ..... dry
Cullers, Wise & Jackson 4 15
Hill, Wolf 1 27
Campbell, Campbell et al 2 10
Kunkel, Goldsmith & King Royalty 3.. 150
Kunkel, Goldsmith & King Royalty 5.. dry
Dean, Holbrook & Woods 5 5
Logan, Pennell et al 1 ..... dry
Patterson, Perkins 1 ..... dry
Deitrich, Sun Oil Co. 13 220
Stewart-B, The Texas Co. 3 ..... dry
Kunkel, United Producers Co. 2 51
Kisinger-B, Shaw et al 1 180
Waddell & Hammond, Christie 1 ..... dry
Edwards, Johnson et al 1 ..... dry
McCaghren-A, Long et al 5 ..... dry
Lemmond, Perkins & Cullum 5 ..... dry
Kunkel, United Production Co. 4 .... dry
Cullers, Wise & Jackson 5 30
Donnell, J. F. Baker & W. Pardue 1 .. 360
Kisinger, Cunningham et al 1 150

Completions 52
Production 1681
Dry 32

SOUTHWEST TEXAS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Mirando	22	1,475	5	8	12	34	46
Bruner	1	0	1	0	0	4	4
Sullivan	1	0	1	0	0	0	0
Darst Creek	1	4,000	0	0	9	5	14
Rockdale	1	0	1	0	0	0	0
Agua Dulce	2	0	0	2	0	1	1
Refugio	13	4,925	1	1	16	27	43
Miscellaneous	27	0	26	1	34	84	118
Total Nov.	68	10,400	35	12	71	155	226
Total Oct.	61	10,447	23	13	24	158	182
Difference	7	47	12	1	47	3	44

WELLS COMPLETED
KOHLER FIELD—DUVAL

Peters, E. H. Buckner 1 ..... gas
Kohler, Humble O. & R. Co. 35 ..... gas
Kohler, Humble O. & R. Co. 36 ..... gas

SCHOOLFIELD—O'BYRNE

Lundell, Magnolia Pet. Co. 2 50
Moody, G. M. Partee 6 75
Hahl, Trapshooter Reilly 2 100
Hahl, S. & O. Oil Co. 7 25
Hahl, Magnolia Pet. Co. 9 75

COLE FIELD—WEBB

J. C. Valdez, Magnolia Pet. Co. 2 ..... gas
Bruni, O. W. Killam 13 ..... abd
Dinn, Co-Operative Drlg. Co. 3 ..... gas
R. Benavides, Houston Oil Co. 20-D... 75
Dinn, Simms Oil Co. 5 ..... gas
Dinn, Simms Oil Co. 6 ..... gas

MID-OJULES

E. Garcia, Crown Pet. Co. 2 ..... abd

ALBERCAS

Yeager-Strohman, Rycade Oil Corp. 10 75

JENNINGS—ZAPATA

Flores, O. W. Killam 2 ..... abd
Cuellar, Killam-Duggan 9 800
Joe Jennings, South Texas Prod. Co. 6. gas
Trevino, Evans et al 1 ..... abd
Cuellar, Killam-Duggan 7 200

WILDCATS—STARR

Kelsey, U. S. Oil & Gas Co. 1 ..... abd

Wells completed 22
Production 1475
Dry 5
Gas 8
Gas production 205,000,000

BRUNER FIELD—CALDWELL

Merriweather, Magnolia Pet. Co. 2.... abd

SULLIVAN—GONZALES

Norwood, Empire G. & F. Co.-Geo. Sullivan 1 ..... abd

DARST CREEK—GUADALUPE

R. C. Appling, Magnolia Pet. Co. 1....4000

ROCKDALE—MILAM

Milton Phillips, Tex. Pet. Dev. Co. 1... abd

AGUA-DULCE—NUECES

Bessie Kerr, Agua Dulce O. & G. Co. 2 gas
Saunders, Agua Dulce O. & G. Co. 2... gas

Wells completed 2
Gas 2
Gas production 170,000,000

REFUGIO FIELD—REFUGIO

Rooke, Benedum & Trees 3 ..... abd
Fannie Heard, Houston Gulf Gas Co. 8 gas
Rooke, Houston Oil Co. 10 100
F. B. Rooke, Houston Oil Co. 13 300
Reilly, Independent O. & G. Co. 3 75
Kuykendall, Mission Drlg. Co. 1 700
Shelly, Mission Drlg. Co. 3 700
City of Refugio, Morgan Oil Corp. 2... 600
Fox, Morgan Oil Corp. 2 600
Swift, Pearson Properties, Inc. 1 400
Murphy, Refugio Oil Corp. 1 650
Leisering, Sun Oil Co. 1 500
Leisering, Sun Oil Co. 2 300

Wells completed 13
Production 4925
Dry 1
Gas 1
Gas production 50,000,000

MISCELLANEOUS

Arkansas County—
Mrs. Kate J. Edwards, United N. & S. Dev. Co. 1 ..... abd
Bastrop County—
Darnell & Bickler, Pacific O. & G. 1.. abd
W. D. Ramsey, Superior Oil Co. 1-A... abd
W. D. Ramsey, Superior Oil Co. 2-A... abd
G. T. King, Superior Oil Co. 1-A ..... abd
Bee County—
Ray, Mission Drlg. Co. 4 ..... abd
G. C. Ruhman, The Texas Co. 1 ..... abd
Brooks County—
Reilly Allen, W. R. French 7 ..... abd
Caldwell County—
W. Ellison, John T. Callahan et al 1... abd
Gonzales County—
Mrs. Hattenback, Crown Pet. Co. 1.... abd
F. H. Frampton, Linderman Bros. 1... abd
Guadalupe County—
A. Koepp, Sinclair O. & G. Co. 1..... abd
S. H. Hermann, L. W. Stieren 1..... abd
Kinney County—
Herbst, A. Blume 2 ..... gas
Live Oak County—
Lyne, J. K. Rowan Drlg. Co. 1..... abd
H. W. Lewis, R. P. Lightfoot 1..... abd
Maverick County—
2 Indio ranch, Ryan Cons. Pet. 2..... abd
Sullivan, Rycade Oil Co. 4 ..... abd
Medina County—
Rothe, California-Medina 1 ..... abd
Noonan, Peters et al 1 ..... abd
Milam County—
W. T. Johnson, E. L. Chapman 1..... abd
H. H. Camp, Lloyd Oil Corp. 1..... abd
Val Verde County—
Wilson, Dyar Bros. et al 1 ..... abd
Jim Wells County—
Chas. Cook, Magnolia Pet. Co. 1..... abd
Zavala County—
Johnnie Davidson, Capt. Alvin Anglin Smith 1 ..... abd
Childress, Tritex Oil Co. 1 ..... abd
West, Tritex Oil Co. 4 ..... abd

Wells completed 27
Dry 26
Gas 1
Gas production 300,000

EAST CENTRAL TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Abd.	Gas	Rgs.	Dlg.	Ttl.
Anderson	1	0	1	0	1	7	8
Angelina	0	0	0	0	0	1	1
Burleson	1	0	1	0	0	0	0
Cherokee	1	570	0	0	1	0	1
Delta	0	0	0	0	0	1	1
Falls	1	0	1	0	0	1	1
Hill	2	20	0	0	0	3	3
Leon	1	0	1	0	0	0	0
Limestone	0	0	0	0	0	3	3
Milam	7	0	7	0	2	2	4
Navarro	0	0	0	0	0	2	2
Rusk	0	0	0	0	0	1	1
Smith	0	0	0	0	0	1	1
Van Zandt	0	0	0	0	0	3	3
Total Nov.	14	590	11	0	4	25	29
Total Oct.	27	1,800	25	1	2	11	13
Difference	13	1,110	14	1	2	14	16

WELLS COMPLETED
ANDERSON COUNTY

Boggy Creek—Williams, Magnolia Petroleum Co. 1 ..... abd

BURLESON COUNTY

Hill, Burleson Oil Co. 1 ..... abd

CHEROKEE COUNTY

Elliott & Clark, Humble Oil & Refining Co. 3-B 670

FALLS COUNTY

Jones, Killiam & Phillips 4 ..... abd

HILL COUNTY

Jones, Harper & Starkey 1 10
Reynolds, Harper & Starkey 1 10

LEON COUNTY

Busby, Reiter et al 1 ..... abd

MILAM COUNTY

Booher, Brunswell & Hill 1 ..... abd
Thrall—Weignam, J. M. Burkhead 1 .. abd
Thrall—Johnson, E. L. Chapman 1 .... abd
Holman, S. M. Chapman 1 ..... abd
Camp, Lloyd Oil Corp. 1 ..... abd
Phillips, Texas Pet. & Dev. Co. 1 ..... abd
Mayer, Powell & Kuykendall 1 ..... abd

EAST TEXAS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas*	Rigs	Dlg.	Ttl.
Camp	0	0	0	0	0	1	1
Panola	6	0	1	5	2	10	12
Red River	0	0	0	0	0	3	3
Shelby	0	0	0	0	0	3	3
Total Nov.	6	0	1	5	2	17	19
Total Oct.	12	0	4	8	4	14	18
Difference	6	0	3	3	2	3	1

*Gas production 8,898,000 ft.

WELLS COMPLETED
PANOLA COUNTY

B. C. Jordan Survey—Louis Werner, Ark.-La. Pipe Line Co. 6 ..... gas
Louis Werner, Ark.-La. Pipe Line Co. 7 ..... gas
John Womack Survey—Eureka Nat. Gas C. 1 Jeter ..... gas
Jas. Matthews Survey—T. C. Adams, Magnolia Pet. Co. 3 ..... dry
E. F. Mitcheson Survey—G. W. Rumble, The Texas Co. 7 ..... gas
Jane Thorpe Survey—Tiller, D. Thomason 2 ..... gas

Wells completed 6
Gas 5
Gas production 8,898,000

MISSISSIPPI

Summary of Field Operations

	Rigs	Dlg.	Ttl.
Alcorn	0	1	1
Chickasaw	0	1	1
Harrison	1	0	1
Hinds	1	3	4
Humphreys	0	1	1
Lafayette	1	0	1
Lauderdale	1	2	3
Lincoln	0	1	1
Monroe	0	3	3
Rankin	0	1	1
Warren	0	1	1
Yalobusha	1	1	2
Yazoo	1	0	1
Total Nov.	6	15	21
Total Oct.	6	15	21
Difference	0	0	0

ALABAMA

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Dlg.	Ttl.
Choctaw	1	0	1	0	0	0	0
Lamar	0	0	0	0	0	1	1
Sumpter	0	0	0	0	0	1	1
Marion	0	0	0	0	1	0	1
Washington	0	0	0	0	0	2	2
Total Nov.	1	0	1	0	1	4	5
Total Oct.	0	0	0	0	1	5	6
Difference	1	0	1	0	0	1	1

WELLS COMPLETED
CHOCTAW COUNTY

15-9-2w Douglas Oil Co., Robinson & Greer 1 ..... dry

NORTH LOUISIANA

Summary of Field Operations

	Comp.	Prod.	Dry*	Gas	Rigs	Dlg.	Ttl.
Bossier	6	180	1	3	8	11	19
Caddo	19	280	11	1	4	20	24
Catahoula	0	0	0	0	0	1	1
Caldwell	1	0	1	0	0	0	0
Claiborne	0	0	0	0	1	3	4
DeSoto	0	0	0	0	2	5	7
Franklin	0	0	0	0	0	2	2
LaSalle	1	65	0	0	3	5	8
Morehouse	3	0	0	3	5	7	12
Natchitoches	1	0	1	0	1	2	3
Ouachita	12	0	2	10	16	14	30
Rapides	0	0	0	0	0	1	1
Red River	1	0	1	0	1	6	7
Richland	12	0	1	11	7	27	34
Sabine	3	7,540	0	0	3	7	10
Union	2	0	1	1	3	4	7
Webster	6	230	1	2	3	11	14
West Carroll	1	0	0	1	0	0	0
Winn	1	50	0	0	0	0	0
Total Nov.	69	8,345	20	32	57	126	183
Total Oct.	55	1,407	8	26	71	121	192
Difference	14	6,938	12	6	14	5	9

*Gas production: Caddo 3,000,000 feet; Bossier 5,500,000 feet; Morehouse 22,248,000 feet; Ouachita 38,270,000 feet; Richland 376,226,000 feet; Union 4,684,000 feet; Webster 19,207,000 feet; West Carroll 18,382,000 feet; total 487,521,000 feet.

WELLS COMPLETED
BOSSIER PARISH

12-17-12 Elston, La. Gas & Fuel Co. 1-A gas
25-16-12 Caples, Palmer Corp. 12 .... gas
24-17-12 Hodges, Palmer Corp. 14-B.. gas
12-17-12 J. A. McDade, Palmer Corp. 1-A ..... gas
31-22-11 Kilgore, Sale & Walker 1 ... 180
9-22-11 Bollinger, Woodmansee and others ..... dry

Wells completed 6
Production 180
Dry 1
Gas 3
Gas production 5,500,000

CADDO PARISH

10-19-14 Dickson, T. C. Adams et al 1. dry
33-21-16 Fee, W. D. Chew 5 25
20-19-14 Oden, D. C. R. Oil Co. 2 ..... dry
9-19-14 Sentell, Eylers Oil & Gas Co. 1 dry
34-21-16 Levee Board, Gulf Ref. Co. 20-A 60
22-19-14 Hunter, Lide et al 1 20
24-21-15 Dillon, Magnolia Pet. Co. 18. dry
30-20-15 Buckalew, C. B. Moore 1 ... 5
17-19-14 Hunter, Ohio Oil Co. 6 ..... dry
9-19-14 Hunter, Ray-Dawes Drlg. Co. 4-A 75
32-21-15 Guy, Shreveport Oil Corp. 1.. dry
9-21-16 Levee Board, Snake Creek Oil Co. 1 ..... dry
16-19-14 School Board, Standard Oil Co. 2 ..... dry
7-19-14 Henderson, Standard Oil Co. 3 dry
17-19-14 Hunter, Standard Oil Co. 8 (loc.) ..... abd
8-19-14 Hunter, Standard Oil Co. 9 .. dry
9-19-14 Hunter, The Texas Co. 5 55
9-19-14 Hunter, The Texas Co. 6 40
16-12 Knight, Woodley Pet. Co. 5-A gas

Wells completed 19
Production 280
Gas 1
Dry 11
Gas production 3,000,000

CALDWELL PARISH

31-12-3e La. Central Lbr. Co., La. Oil Ref. Corp. 1 ..... dry

LA SALLE PARISH

18-10-2e Urania, Air Lift Oil Co. 8 ... 65

MOREHOUSE PARISH

3-20-4 Feazel, Bahan & Bahan 1 ... gas
17-20-5 Bowles, J. S. Harkness 10 ... gas
29-21-5 U. S. Gov't, Magnolia Pet. Co. 5 ... gas

Gas production ... 22,248,000

NATCHITOCHES PARISH

7- 8-9 Cassady, Robeline Oil & Gas Co. 1 ... dry

OUACHITA PARISH

42-19-4 Cole, Amalgamated Carbon Co. ... gas
82-18-4 Rea & Green, Ark.-La. Pipe Line Co. 3 ... gas
62-18-3 McGuire, Austin & Jordan 2 .. gas
49-18-4 Slagle Johnson, Chauvin Gas Co. 1 ... gas
16-16-4 School Board, Farish & Russell 1 ... dry
18-19-4 Phillips, Greenwood Prod. Co. 1 ... gas
35-18-3 Cole, Jordan Drilling Co. 5 .. gas
48-18-4 Slagle Johnson, Mack & Pipes 2 (loc.) ... abd
47-18-4 Slagle Johnson, Mack & Pipes 3 ... gas
18-18-5 W. E. Montgomery, J. E. Sandridge, Jr., 1 ... gas
19-19-4 Stubbs, Linton Stubbs, trustee, 1 ... gas
42-18-4 Kate Cole, Trousdale & Wright 1 ... gas

Wells completed ... 12
Gas ... 10
Gas production ... 38,274,000

RED RIVER PARISH

23-13-11 Pickett, Joe Danciger 1 (OW DD) ... abd

RICHLAND PARISH

2-16-6 Chenault, Ark.-La. Pipe Line Co. 1 ... gas
27-16-6 Brown, W. C. Feazel 1 ... gas
22-16-6 Brown, W. C. Feazel 2 ... gas
11-16-6 J. H. Hemler, Hope Prod. Co. 1 ... gas
22-16-6 L. R. Hemler, Hope Prod. Co. 1 ... gas
11-16-6 H. L. Thomason, Hope Prod. Co. 1 ... gas
2-15-5 M. Hatch, Magnolia Pet. Co. 2 dry
36-16-5 Noble, Magnolia Pet. Co. 5 ... gas
20-17-6 Boykin, Northern La. Gas Co. 4 ... gas
29-16-6 McCoy, Palmer Corp. 1 ... gas
28-17-6 Rhymes, Palmer Corp. 4 ... gas
12-16-6 Thornby, United Carbon Co. 1 gas

Wells completed ... 12
Gas ... 11
Gas production ... 376,226,000

SABINE PARISH

33-10-12 Williams, Bridges-Clark Oil Co. 2 ... 487
34- 8-12 Bowman-Hicks Lbr. Co., R. L. Gay, trustee, 1-A ... 7000
33-10-12 E. E. Hall, Magnolia Pet. Co. 4 ... 50

Production ... 7540

UNION PARISH

2-20-3 Parks, Bahan & Bahan 2 (blowout; junked) ... abd
11-20-3 H. M. Jones, Lyons Gas Co. 1 gas

Gas production ... 4,684,000

WEBSTER PARISH

30-23-9 L. H. Wise, J. W. Clark, trustee, 1 ... 25
33-23-9 N. T. Knight, Magnolia Pet. Co. 1 ... 10
1-22-11 Scroggins, Magnolia Pet. Co. 2 195
21-21-10 Bodcaw Lbr. Co., Ohio Oil Co. 45 ... gas
28-21-10 Bodcaw Lbr. Co., Standard Oil Co. 3-D ... gas
3-22-11 Boyd, Woodmansee et al 1.. dry

Wells completed ... 6
Production ... 230
Dry ... 1
Gas production ... 19,207,000

WEST CARROLL PARISH

12-19-10 Marston, Palmer Corp. 1 .... gas

Gas production ... 18,382,000

WINN PARISH

26-10-1e Harter, Gardner, Harter & Brown 16 ... 50

ARKANSAS

Summary of Field Operations

	Comp.	Prod.	Dry	*Gas	Rigs	Dlg.	Ttl.
Ashley	0	0	0	0	0	2	2
Clark	0	0	0	0	0	1	1
Cleburn	0	0	0	0	0	1	1
Columbia	1	0	1	0	0	0	0
Drew	0	0	0	0	0	1	1
Faulkner	0	0	0	0	1	0	1
Garland	0	0	0	0	0	1	1
Grant	0	0	0	0	0	1	1
Johnson	1	0	1	0	1	0	1
Little River	0	0	0	0	0	2	2
Logan	1	0	1	0	0	0	0
Madison	0	0	0	0	0	1	1
Miller	1	0	1	0	0	0	0
Nevada	0	0	0	0	1	1	2
Ouachita	8	730	0	1	1	20	21
Pike	0	0	0	0	0	1	1
Pope	1	0	0	1	1	1	2
Prairie	0	0	0	0	0	1	1
St. Francis	0	0	0	0	0	1	1
Union	6	0	6	0	6	12	18
Van Buren	0	0	0	0	0	1	1
Washington	0	0	0	0	0	3	3
White	0	0	0	0	0	1	1
Total Nov.	19	730	10	2	11	52	63
Total Oct.	28	737	12	0	10	50	60
Difference	9	7	2	2	1	2	3

*Gas production 37,275,000 feet.

WELLS COMPLETED

COLUMBIA COUNTY

31-19-19 Copeland, Talbot & Markle 1 dry

JOHNSON COUNTY

12-10-24 Bynum, Ark. Nat. Gas Co. 2.. dry

LOGAN COUNTY

26- 7-23 Hanna, Ark.-La. Pipe Line Co. 1 ... dry

MILLER COUNTY

13-15-26 Persons, E. V. Lenz et al 1 .. dry

OUACHITA COUNTY

35-15-15 Avera, Ark. Nat. Gas Co. 2 .. gas
36-15-16 McKenzie, Magnolia Prod. Co. 5-B ... 25
34-15-15 Scott, Phillips Pet. Co. 4 280
34-15-15 Williams, Shell Pet. Co. 5 ... 300
34-15-15 E. Johnson, Simms Oil Co. 4 40
35-15-15 Langley, Skelly Oil Co. 2 ... 10
34-15-15 Powell, Standard Oil Co. 8 ... 55
35-15-15 Avera, The Texas Co. 1 20

Wells completed ... 8
Production ... 730
Gas ... 1
Gas production ... 3,275,000

POPE COUNTY

15- 9-21 McFaddin, Ark.-La. Pipe Line Co. 1 ... gas

Gas production ... 34,000,000

UNION COUNTY

17-18-12 Norris, Ark. Drilling Co. 1 .. dry
8-17-15 Goodwin, J. B. Hawkins et al 1 ... dry
17-19-14 Loutre Lumber Co., E. M. Jones 1 ... dry
34-19-14 Hardy Murphy, E. M. Jones 1 dry
3-16-16 Goodwin, Joe Marr 2 ..... dry
19-18-16 Carroll, Shell Pet. Co. 1 ..... dry

TENNESSEE

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Dlg.	Ttl.
Decatur	1	0	1	0	0	1	1
Fayette	0	0	0	0	0	1	1
Total Nov.	1	0	1	0	0	2	2
Total Oct.	0	0	0	0	0	3	
Difference	1	0	1	0	0	1	1

WELLS COMPLETED

DECATUR COUNTY

—— Wyatt, Standard Oil Co. of La. 1 dry

GULF COAST FIELDS

Summary of Field Operations

Texas

Field—	Comp.	Prod.	Abd.	Gas	Rigs	Drg.	Ttl.
Barbers Hill	16	11,195	2	0	1	17	18
Batson	7	22	2	0	0	1	1
Big Creek	1	0	1	0	0	4	4
Blue Ridge	2	390	1	0	0	2	2
Boling	1	0	1	0	1	0	1
Clay Creek	2	10	0	1	0	2	2
DeWalt	5	2,415	0	0	2	6	8
Goose Creek	3	0	3	0	0	4	4
High Island	1	1,750	0	0	0	2	2
Hull	5	1,680	1	0	2	7	9
Humble	9	15,700	3	0	5	13	18
Liberty	8	350	5	0	1	4	5
Nash	0	0	0	0	0	1	1
North Dayton	1	125	0	0	0	1	1
Orange	2	755	0	0	0	1	1
Orchard	1	0	1	0	0	0	0
Pierce Junction	5	1,700	2	0	1	10	11
Raccoon Bend	10	3,590	0	0	4	14	18
Refugio	25	5,198	0	10	4	19	33
Saratoga	2	56	0	0	0	1	1
Sour Lake	2	125	0	0	0	3	3
Spindletop	7	4,600	1	0	1	9	10
West Columbia	0	0	0	0	0	5	5
Miscellaneous	26	697	21	1	7	32	39
Total Nov.	141	50,358	44	12	29	158	187
Total Oct.	150	63,628	44	3	37	190	227
Difference	9	13,270	0	9	8	32	40

South Louisiana

Anse La Butte	2	0	2	0	0	0	0
Bayou Boullion	0	0	0	0	0	2	2
Edgerly	3	65	1	0	0	1	1
Hackberry	9	4,600	4	0	0	5	5
Jennings	3	35	2	0	0	4	4
Lockport	0	0	0	0	1	1	2
Sorrento	0	0	0	0	0	1	1
Starks	2	50	1	0	0	1	1
Sulphur	0	0	0	0	1	4	5
Sweet Lake	0	0	0	0	1	1	2
Vinton	2	138	0	0	0	2	2
Miscellaneous	16	3,270	13	0	8	22	30
Total Nov.	37	8,158	23	0	11	44	55
Total Oct.	32	11,985	16	2	13	56	69
Difference	5	3,827	7	2	2	12	14
Total Gulf Coast	178	58,516	67	12	40	202	242
Total Oct.	182	75,613	60	5	50	246	296
Difference	4	17,097	7	7	10	44	54

WELLS COMPLETED

BARBERS HILL—CHAMBERS COUNTY

Smith, Mills Bennett Prod. Co. 3 80
Collier, Mills Bennett Prod. Co. 1 100
Woodward, D. B. Daniels 3 1700
Kirby, Humphreys Corp. 6-H 1800
Kirby, Humphreys Corp. 7-H 1200
Scott, Humphreys Corp. 1 ..... abd
Smith, Rexall Oil Co. 1 80
McKinney, Sinclair O. & G. Co. 2 ..... abd
J. Wilburn, Sun Oil Co. 1 900
Illfrey, Superior Oil Corp. 2 175
Wilburn, The Texas Co. 1 250
Wilburn, The Texas Co. 2 600
Wilburn, The Texas Co. 3 950
Woodward, Yount Lee Oil Co. 3 2400
Chambers, Yount Lee Oil Co. 8 60
Chambers, Yount Lee Oil Co. 9 1900

Wells completed ... 16
Production ... 11,195
Abandoned ... 2

BATSON—HARDIN COUNTY

Carlton, Ada Belle Oil Co. 129 5
B. B. & C., East Batson Oil Co. 8 ..... abd
B. B. & C., East Batson Oil Co. 9 ..... abd
Paraffine, Paraffine Oil Co. 80 10
Paraffine, B. O. Poole 2 7

Wells completed ... 5
Production ... 22
Abandoned ... 2

BIG CREEK—FORT BEND COUNTY

Davis, Gulf Prod. Co. 25 ..... abd

BLUE RIDGE—FORT BEND COUNTY

Luscher, Gulf Prod. Co. 17 ..... abd
Blakely, South Texas Pet. Co. 5 390

Wells completed ... 2
Production ... 390
Abandoned ... 1

BOLING—FORT BEND COUNTY

E. C. Farmer, Sun Oil Co. 9 ..... abd

CLAY CREEK—WASHINGTON COUNTY

Landgraf, Sun Oil Co. 2 10
Hunt, Sun Oil Co. 3 ..... gas

Wells completed ... 2
Production ... 10
Gas ... 1
Gas production ... 5,000,000

DeWALT—FORT BEND COUNTY

Bankers Mortgage, Humble O. & R. 1-C 850
Brazos, Humble O. & R. Co. 3 115
Hagensen, Humble O. & R. Co. 1 50
Peterson, Humble O. & R. Co. 1 1000
Sugarland, Humble O. & R. Co. 1-B 400

Wells completed ... 5
Production ... 2415

GOOSE CREEK—HARRIS COUNTY

Jones, Chicago Oil Corp. 1 ..... abd
Duke, Lake Shore Oil Co. 4 ..... abd
Dannenbaum, Lube Well Oil Co. 1 ..... abd

Wells completed ... 3
Abandoned ... 3

HIGH ISLAND—GALVESTON COUNTY

Cade, Marrs McLean 16 1750

HULL—LIBERTY COUNTY

Barngrover, Empire G. & F. Co. 27 500
Phoenix, Gulf Prod. Co. 56 115
Hooks-Spell, Humble O. & R. Co. 12 ... 715
Dolbear, Republic Prod. Co. 35 ..... abd
Dolbear, Republic Prod. Co. 128 350

Wells completed ... 5
Production ... 1630
Abandoned ... 1

HUMBLE—HARRIS COUNTY

Trahon, Humble O. & R. Co. 1 2500
Williams, Humble O. & R. Co. 5 500
Glass, Humble O. & R. Co. 1 ..... abd
Burt, South Texas Pet. Co. 3 ..... abd
Lee, South Texas Pet. Co. 1 ..... abd
Morris, South Texas Pet. Co. 11 1500
Landslide, The Texas Co. 265 50
Landslide, The Texas Co 270 3000
Dunman, The Texas Co. 1 3150

Wells completed ... 9
Production ... 15,700
Abandoned ... 3

LIBERTY—LIBERTY COUNTY

Groggan, Empire G. & F. Co. 7 ..... abd
Groggan, Empire G. & F. Co. 8 150
Monroe, Liberty Oil & Sulphur Co. 1.. abd
Turner, Neches Oil Co. 2 ..... abd
Picketi, Pierce & Rodgers 1 ..... abd
Wilcox, Rio Bravo Oil Co. 1 ..... abd
Mitchell, Sun Oil Co. 50 100
Mitchell, Yount Lee Oil Co. 19 100

Wells completed ... 5
Production ... 350
Abandoned ... 5

NORTH DAYTON—LIBERTY COUNTY

Fee, Deering & Kayser 5 125

ORCHARD—FORT BEND COUNTY

Moore, Gulf Prod. Co. 19 ..... abd

ORANGE—ORANGE COUNTY

McLean, Brownie-Babbett Oil Co. 8 125
State, Tillery Oil Co. 3-B 630

Wells completed ... 2
Production ... 755

PIERCE JUNCTION—HARRIS COUNTY

Dooley, Navarro Oil and Humble O. & R. Co. 5 200
Cain, Navarro Oil Co. 2-A 300
Herman estate, Saxet Oil Co. 2 1200
Dooley, T. G. Shaw 2 ..... abd
Settegast, Superior Oil (Moody) 5-B... abd

Wells completed ... 5
Production ... 1700
Abandoned ... 2

RACCOON BEND—AUSTIN COUNTY

Grawunder, Humble O. & R. Co.-Valley Oil Corp. 2-A 100
Grawunder, Humble O. & R. Co.-Valley Oil Corp. 4-B 500
Jackson, Humble O. & R. Co.-Valley Oil Corp. 2 600
Mitchell, Humble O. & R. Co.-Valley Oil Corp. 2-B 45
Bellville, Humble O. & R. Co.-Valley Oil Corp. 4 350
Urban, Humble O. & R. Co.-Valley Oil Corp. 5 500
McCausland, Humble O. & R. Co.-Valley Oil Corp. 1 60
Deutrich, Humble O. & R. Co.-Valley Oil Corp. 6-A 185
Deutrich, Humble O. & R. Co.-Valley Oil Corp. 7-A 750
Gotosky, Humble O. & R. Co.-Valley Oil Corp. 5 500

Wells completed ... 10
Production ... 3590

REFUGIO—REFUGIO COUNTY

Cemetery, Hewitt et al 1 500
Cemetery, Hewitt et al 2 250
Fannie Heard Houston Gulf Gas Co. 4. gas
Fannie Heard, Houston Gulf Gas Co. 8. gas
T. P. Shelley, Houston Gulf Gas Co. 6. gas
T. P. Shelley, Houston Gulf Gas Co. 8. 300
Pratt-Hewitt-Rooke, Houston Oil Co. 10 100
F. Rooke, Houston Oil Co. 2 ..... gas
Anna Reilly, Independent O. & G. Co. 1 gas
J. F. B. Heard, Mission Drlg. Co. 1.... gas
Kuykendall, Mission Drlg. Co. 1 250
Shelley, Mission Drlg. Co. 2 ..... gas
Shelley, Mission Drlg. Co. 3 120
Eskridge-Heard, Mission Drlg. Co. 1... 500
Fox, Mission Drlg. Co. 2 ..... gas
City, Morgan Oil Corp. 3 600
Strauch, Morgan Oil Corp. 1 200
Fox, Pearson Properties 2 550
Swift, Pearson Properties 1 450
Murphy, Refugio Oil Corp. 1 650
Serafino, Saxet Oil Co. 1 ..... gas
Clint Heard, Saxet Oil Co. 11 25
Leisering, Sun Oil Co. 2 300
Leisering, Sun Oil Co. 1 300
Clint Heard, The Texas Co. 1 ..... gas

Wells completed ... 25
Production ... 6198
Gas ... 10

SARATOGA—HARDIN COUNTY

Queen City, Paggi et al 5 16
Cotton, Rio Bravo Oil Co. 78 40

Wells completed ... 2
Production ... 56

SOUR LAKE—HARDIN COUNTY

Minor, Lake View Oil Co. 7 75
Cannon, M. E. Peveto 1 50

Wells completed ... 2
Production ... 125

SPINDLETOP—JEFFERSON COUNTY

McFaddin, Yount Lee Oil Co. 74 1000
McFaddin, Yount Lee Oil Co. 85 750
McFaddin, Yount Lee Oil Co. 116 1000
McFaddin, Yount Lee Oil Co. 118 300
Gladys City, Yount Lee Oil Co. 57 ..... abd
Gladys City, Yount Lee Oil Co. 96 50
Gladys City, Yount Lee Oil Co. 98 1500

Wells completed ... 7
Production ... 4600
Abandoned ... 1

MISCELLANEOUS TEXAS

Austin County—

Lass, Whittington et al 1 ..... abd

Burleson County—

Wilber, R. H. Davis 1 ..... abd
Duckworth & Gilley, W. P. Stafford 1. abd

Chambers County—

Lost Lake—Mays, Pure Oil Co. 1 32
Lost Lake—Mays, Pure Oil Co. 5 250
Lost Lake—Mays, Pure Oil Co. 6 ..... abd

Colorado County—

Coyle, Coyle-Concord Oil Co. 1 ..... abd
Rosenburg, Rich Oil Corp. 1 ..... abd
Bruback, Shell Pet. Corp. 1 ..... abd
Machenrol, The Texas Co. 1 ..... abd

Fort Bend County—

Long Point-Trone, Gulf Prod. Co. 12.. abd

Grimes County—

Freund, Deering et al 1 ..... abd

Harris County—

Mykawa-Siadous, Humble O. & R. 1... gas
Hockley-Warren, Humble O. & R. 1... abd

Jasper County—

Rockdale-Boykin, Great Lakes Oil Co. 7 15

Jefferson County—

Fannette-Junker, Gulf Production Co. 1 400
Labelle-Herbert-Broussard, Vacuum Oil Co. 1 ..... abd
Burrell, Weldon Oil Co. 1 ..... abd

Liberty County—

Gardner, Gray-Tex Oil Co. 1 ..... abd

Orange County—

Mansfield, Glaperin et al 1 ..... abd

Waller County—

San Felipe—Rogers, Kirby Petroleum Co. 1 ..... abd

Wasington County—

Esters, Tannehill et al 1 ..... abd
Weiss, Tom Owens & Inland Oil Co. 1.. abd
Smith, Brain Brothers 1 ..... abd
G. C. & S. F., Coleman et al 1 ..... abd
Carter, A. W. Kollatt 1 ..... abd

Wells completed ... 26
Production ... 697
Abandoned ... 21
Gas ... 1

SOUTH LOUISIANA

ANSE LA BUTTE—ST. MARTIN PARISH

Begnaud, Bowie Oil & Gas Co. 5 ..... abd
Louisiana Pet. Co., Yount Lee Oil Co. 5 abd

Wells completed ... 3
Production ... 0
Abandoned ... 2

EDGERLY—CALCASIEU PARISH

Lillard, C. M. Crotty 15 15
Louisiana Prairie, Rex Petroleum Co. 1 abd
Hunter, Rex Petroleum Co. 8 50

HACKBERRY—CAMERON PARISH

Lemke, Calcasieu Oil Co. 4 3300
Gulf Land, Rycade Oil Corp. & Humble Oil & Refining Co. 2 600
Duhon, Seaport Oil Corp. 1 ..... abd
Gibb Duhon, Seaport Oil Corp. 1 ..... abd
Ellender, Sunshine Oil Co. 4 ..... abd
Ellender, Sunshine Oil Co. 5 300
Duhon, J. G. Sutton 1 500
Lacey, Yount Lee Oil Co. 1-B 900
Lacey, Yount Lee Oil Co. 2-B ..... abd

Wells completed ... 9
Production ... 4600
Abandoned ... 4

JENNINGS—ACADIA PARISH

Fee, Kathleen Oil Co. 1 ..... abd
Martin, Ratcliff Oil Co. 7 35
Crowley, Yount Lee Oil Co. ..... abd

Wells completed ... 3
Production ... 35
Abandoned ... 2

STARKS—CALCASIEU PARISH

Industrial, Gulf Refining Co. 14 ..... abd
Lutcher-Moore, Gulf Refining Co. 16.. 50

Wells completed ... 2
Production ... 50
Abandoned ... 1

VINTON—CALCASIEU PARISH

Gardner, Gulf Refining Co. 1	130
Shaw, Salt Dome Oil Co. 2	8
Wells completed	2
Production	138

MISCELLANEOUS LOUISIANA

Calcasieu Parish—

Mims, J. O. Davis 1	abd
James, Wilfred LaHay	abd

Cameron Parish—

Black Bayou—Watkins, Shell Petroleum Corp. 12	920
Black Bayou—Watkins, Shell Petroleum Corp. 13	abd
Calcasieu Lake, The Texas Company 4	abd

Iberia Parish—

Jefferson Lake—Lake Piegneur, Jefferson Lake Oil Co. 3	abd

Iberville Parish—

Bayou Blue—Schwing, Standard Oil Co. 2	350

LaFourche Parish—

Thibodaux-Dilbert-Stark Brown, Gulf Refining Co. 14-A	abd

St. Bernard Parish—

Fee, St. Bernard Oil & Gas Co. 1	abd

St. Landry Parish—

Gaudet, Gulf Refining Co. 2	2000

St. Martin Parish—

Hager—Martin, Ohio Oil Co. 4	abd

St. Mary Parish—

Belle Isle, Freeport Sulphur Co. 5	abd
Barbour, La. Land & Exploration Co. 1	abd

Terrebonne Parish—

Dog Lake—L. L. & E. Co., The Texas Company 1	abd
Four Isle—L. L. & E. Co., The Texas Company 2	abd

Vermillion Parish—

Boudouin, Atlantic Oil Producing Co. 1	abd
Wells completed	16
Production	3270
Abandoned	13

KENTUCKY

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Warren	2	34	0	0	0	3	3
Allen	0	0	0	0	0	6	6
Barren	1	20	0	0	0	0	0
Ohio	84	3,428	25	7	0	61	61
Daviess	26	1,038	4	0	3	28	31
Hancock	3	0	1	2	0	3	3
McLean	1	20	0	0	0	4	4
Henderson	4	370	0	0	0	10	10
Webster	2	0	0	2	0	2	2
Muhlenberg	6	250	4	0	2	8	10
Hopkins	5	60	0	3	0	6	6
Butler	0	0	0	0	1	1	2
Breckenridge	0	0	0	0	1	1	1
Christian	1	10	0	0	2	3	5
Union	0	0	0	0	0	1	1
Cumberland	0	0	0	0	0	2	2
Logan	0	0	0	0	1	1	2
Todd	0	0	0	0	0	1	1
Wayne	2	5	1	0	0	9	9
Powell	0	0	0	0	0	1	1
Estill	1	20	0	0	0	5	5
Lee-Owsley	2	7	0	0	0	2	2
Johnson-Lawrence	1	5	0	0	0	0	0
Johnson-Magoffin	1	4	0	0	2	2	4
Floyd	0	0	0	0	0	1	1
Clay	1	0	0	1	1	2	3
Jackson	0	0	0	0	0	1	1
Knox	0	0	0	0	0	1	1
Pike	0	0	0	0	0	1	1
Total Nov.	143	5,271	35	15	13	166	179
Total Oct.	113	7,054	32	5	9	164	173
Difference.	30	1,783	3	10	4	2	6

WELLS COMPLETED

WARREN COUNTY

Bowling Green—Lydia E. Patton, P. H. Lavelle 7	22
E. Morgan, Morrow & Hays 10	12
Wells completed	2
Production	34

BARREN COUNTY

Glasgow—Porter Williams, C. F. Stumbo 2	20

OHIO COUNTY

Hartford—Denton-Admonson, Wood Oil 1	40
Nannie Rogers, Wood Oil 6	30
Nannie Rogers, Wood Oil 7	35
Nannie Rogers, Wood Oil 8	40
J. W. Mattox, Wood Oil 12	dry
Sallie Hoover, Rex-Pyramid Oil 14	75
Sallie Hoover, Rex-Pyramid Oil 15	75
Chas. Trodgen, Rex-Pyramid Oil 4	350
Lena T. Bartlett, Rex-Pyramid Oil 3	50
Morgan, Rex-Pyramid Oil 9	20
Clyde Bartlett, Hupp & Duff 16	350
Clyde Bartlett, Hupp & Duff 17	150
Clyde Bartlett, Hupp & Duff 18	dry
Clyde Bartlett, Hupp & Duff 19	200
L. L. Trodgen, Hupp & Duff 22	100
E. S. Dunn, Hupp & Duff 1	dry
Ellis Bartlett, Hupp & Duff 14	150
Ellis Bartlett, Hupp & Duff 15	50
Albert Payne, Jas. C. Ellis & Co. 3	15
B. D. Spurrier, Jas. C. Ellis & Co. 1	dry
Royal hrs., Jas. C. Ellis & Co. 3	dry
J. E. Evans, Jas. C. Ellis & Co. 1	dry
Reat Haynes, Mo-Kansas Gas 1	gas
S. F. Whitley, Mo-Kansas Gas 2, 3	gas
Ida Kelley, H. C. Smith Oil 7	dry
Ida Kelley 116-a, H. C. Smith Oil 1	10
Pate Royal, H. L. Ogle & Co. 17	35
Pate Royal, H. L. Ogle & Co. 18	35
Pate Royal, H. L. Ogle & Co. 19	40
Pate Royal, H. L. Ogle & Co. 20	45
Pate Royal, H. L. Ogle & Co. 21	40
T. P. Royal 40-a, H. L. Ogle & Co. 11	50
Tom Henning, Warren Oil & Gas 1	dry
Joe Cheek, Dr. Buckner & Co. 1	dry
Cody Hoover, Southern Oil Producing 1	60
M. S. Bartlett, Ellis & Bashaw 1	dry
Rob Miller, Louisville Gas & Electric 1	30
Royal hrs., H. L. Ogle Co. 8	60
Tom Westerfield, Leeper Oil 3	40
Tom Westerfield, Leeper Oil 4	65
C. D. Evans, Swarthout, Rhodes Co. 1	gas
Westerfield, Chester Oil 1	dry
Walter Stiles, Chester Oil 1	10
Martha Medcalf, Chester Oil 8	dry
A. P. Kelley, S. R. Nigh & Co. 13, 14	dry
E. E. Fuqua, John Breen Co. 3	20
J. L. & J. H. Ralph, C. Claypool & Co. 15	20
T. P. Royal, Roy P. Baker & Co. 6	30
T. P. Royal 40-a, H. L. Ogle & Co. 10	65
T. P. Royal, T. P. Royal & Co. 7	15
T. P. Royal 60-a, T. P. Royal & Co. 8	20
F. L. Royal 94-a, New Domain Oil & Gas 8	gas
A. G. Phister, The Ohio Oil 1	60
A. G. Phister, The Ohio Oil 2	20
Eula Henning, The Ohio Oil 3	18
T. P. Royal, T. P. Royal & Co. 9	25
Kate Funk, Backer & Co. 1	100
Arnold Newton, Armistead Oil 1	10
Arnold Newton, Armistead Oil 2	dry
A. F. Belamy, Breener & Adams 1	3
A. F. Belamy, Breener & Adams 2	5
Nancy Wigginton, Root & Young 1	500
Crow, Three Sands Oil 1	dry
Earnest Bickett, D. J. White & Co. 4	dry
Alfred Brown, Cumberland Petroleum 1	dry
Kirk, Cumberland Petroleum 1	20
F. C. Hanna, Oliver Jenkins & Co. 1	dry
W. H. Harper, C. E. Daugherty 4	4
M. L. Howard, J. E. Hare 3	8
Cobb hrs., Dr. Sirman 1	gas
Kelley hrs. 65-a, J. M. Meredith & Co. 11	20
H. C. Greer, S. H. Russell & Co. 10	80
W. Midkiff, S. H. Russell & Co. 3	60
W. Midkiff, S. H. Russell & Co. 4	dry
H. C. Greer, S. H. Russell & Co. 10	80
Henry Harrison, Wade & Moore 1	gas
P. R. Kelley, Louisville Gas & Electric 3	dry
Dodson hrs., Tracy Supply Co. 7	50
W. Hamilton, L. C. Young 1	dry
Jewell, W. F. Kolb 1	25
E. Ralph, W. J. Flesher & Co. 1	dry
Guy Muffett, Fred L. Weir & Co. 2	dry
Wells completed	84
Production	3,428
Dry	25
Gas	7

DAVIESS COUNTY

Owensboro—Floyd Kirk, Creek Drilling 1	15
Steve Johnson, Petroleum Exp. 1	50
Steve Johnson, Petroleum Exp. 2	35
I. J. Clark, Petroleum Exploration 1	10
J. H. Gray, Petroleum Exploration 2	30
J. E. Evans, White & Vickers 7	60
Stinnett hrs., White & Vickers 4	dry
I. J. Clark, Evans & Garrison 3	20
Davis hrs., Evans & Garrison 4	150
Davis hrs., Evans & Garrison 5	125
Davis hrs., Evans & Garrison 6	100
Mackey, Johnson, Young & Co. 2	100
Zulu Johnson, Mecca Oil 2	15
S. H. Easton, Kemrow-Cumberland Pet. 9	50
M. C. Ruby, Eastern Gulf Oil 12	3
M. C. Ruby, Eastern Gulf Oil 13	35
W. A. Murray, Eastern Gulf Oil 10	dry
W. A. Murray, Eastern Gulf Oil 13	35
Fireline, Stimson & Robbins 5	25
F. L. Boarman, Wade & Moore 1	50
J. H. Fuqua, Mecca Oil 1	35
Zulu Johnson, Mecca Oil 3	35
Cecil, Brewer & Thrasher 1	dry
Elizabeth Salmon, Cumberland Pet. 7	30
B. Walters, Daly & Lowman 1	30
J. L. Howard, White & Co. 2	dry
Wells completed	26
Production	1,038
Dry	4

HANCOCK COUNTY

Pellville—H. Corey, Mo-Kansas Gas 1	dry
Jas. McDaniels, Mo-Kansas Gas 1	gas
Near Victoria, Yewell, Kelley & Co. 1	gas
Wells completed	3
Dry	1
Gas	2

McLEAN COUNTY

Calhoun—G. B. McManama No. 2, The Ohio Oil 4	20

HENDERSON COUNTY

Niagara—Scott hrs., Southern Oil Producing 1	60
Ed. Farley, Southern Oil Prod. 2	100
Niagara High School lot, Commissioners 1	175
C. M. Gish, H. Z. Clark & Co. 1	35
Wells completed	4
Production	370

WEBSTER COUNTY

Sebree—S. T. Powell, Shadin & Westcott 1	gas
Simon, Iley Browning 1	gas
Wells completed	2
Gas	2

MUHLENBERG COUNTY

Greenville—John Corley, Mo-Kansas Gas 2	200
Volney Fortney, Mo-Kansas Gas 1	dry
Woodson-Rice Bros., Ellis & Young 2	50
Jim Bandy, E. M. Treat Co. 1	dry
R. L. Kennedy, The Oil Oil 1	dry
A. F. & C. W. Walker, The Ohio Oil 1	dry
Wells completed	6
Production	250
Dry	4

HOPKINS COUNTY

Madisonville—Todd, Jess M. Huggins 1, 2, 3	gas
Barnhill, The Ohio Oil 1	10
Shelly Poe, Cates, Arnold & Co. 1	50
Wells completed	5
Production	60
Gas	3

CHRISTIAN COUNTY

Hopkinsville—Martin Collins, Pratt Bros. & Co. 1	10

WAYNE COUNTY

District 3—Stearns Coal & Lumber, Pigeon Rock Oil 12	5
District 13—T. M. Taylor, John Toller 1	dry
Wells completed	2
Production	5
Dry	1

ESTILL COUNTY

District 7—Reed hrs., McEldowney, Bowser & Co. 6	20

LEE-OWSLEY COUNTIES

District 18—Armina Combs, Swiss Oil Corp. 2	5
J. A. Curry, Ashcraft & Barnes 4	2
Wells completed	2
Production	7

JOHNSON-LAWRENCE COUNTIES

District 32—R. M. Sparks, Boston Southwestern Oil & Gas 22	5

JOHNSON-MAGOFFIN COUNTIES

District 29—Milt Wheeler, Pittsburg Trust. 11	4

CLAY COUNTY

Manchester—Gardner-Baker, Petroleum Exploration 1	gas

ROCKY MOUNTAIN AREA

WYOMING

Summary of Field Operations

Dist. or County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Salt Creek	3	4,462	0	0	3	5	8
Big Horn	0	0	0	0	0	7	7
Carbon	2	0	2	0	0	15	15
Fremont	0	0	0	0	0	10	10
Hot Springs	1	0	1	0	0	5	5
Lincoln	0	0	0	0	3	6	9
Natrona (exc. Salt Creek	2	225	0	0	1	6	7
Niobrara	1	0	1	0	1	3	4
Park	3	413	1	0	5	25	30
Sweetwater	2	0	0	2	3	10	13
Sublet	3	280	1	0	2	19	21
Weston	2	100	1	0	1	3	4
Uinta	0	0	0	0	3	13	16
Miscellaneous	0	0	0	0	2	7	9
Total Nov.	19	5,480	7	2	24	134	158
Total Oct.	18	6,143	8	1	24	142	166
Difference	1	663	1	1	0	8	8

NEW MEXICO

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Chaves	1	0	1	0	0	4	4
De Baca	0	0	0	0	0	2	2
Eddy	3	300	2	0	5	8	13
Lea	5	476	1	1	13	30	43
McKinley	0	0	0	0	2	8	10
Otero	1	0	1	0	0	1	1
Rio Arriba	0	0	0	0	1	4	5
San Juan	0	0	0	0	4	11	15
Miscellaneous	0	0	0	0	3	9	12
Total Nov.	10	776	5	1	28	77	105
Total Oct.	8	2,634	2	1	30	66	96
Difference	2	1,858	3	0	2	11	9

UTAH

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Total Nov.	0	0	0	0	3	26	29
Total Oct.	0	0	0	0	2	30	32
Difference	0	0	0	0	1	4	3

MONTANA

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Cat Creek	0	0	0	0	0	1	1
Kevin Sunburst	22	290	7	6	11	21	32
Pondera	1	50	0	0	2	2	4
Miscellaneous	5	4	4	0	8	72	80
Total Nov.	28	344	11	6	21	96	117
Total Oct.	39	515	19	7	23	95	118
Difference	11	171	8	1	2	1	1

COLORADO

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Bent	1	0	1	0	0	2	2
Boulder	0	0	0	0	0	4	4
Fremont	2	0	2	0	1	14	15
Jackson	0	0	0	0	0	5	5
Larimer	0	0	0	0	2	6	8
Las Animas	1	0	0	1	3	3	6
Moffat	0	0	0	0	10	4	14
Montrose	1	0	1	0	0	0	0
Pueblo	0	0	0	0	1	2	3
Rio Blanco	0	0	0	0	0	2	2
Routt	1	0	1	0	2	1	3
Yuma	0	0	0	0	0	2	2
Miscellaneous	0	0	0	0	0	30	30
Total Nov.	6	0	5	1	19	75	94
Total Oct.	6	9	3	1	14	78	92
Difference	0	9	2	0	5	3	2

WYOMING

WELLS COMPLETED

26-40-79 SW, Midwest Oil Co. 3-L	72
35-40-79 NW, Wyoming Associated 33-SD-3	1988
26-40-79 SW, Midwest Oil Co. 13-SD-3	2402
12-24-88 O'Brien Springs, Producers & Refiners 1	abd
28-21-86 Grenville, Prod. & Ref. 3	abd
23-45-100 Skelton, Texas Prod. Co. 1	dry
11-38-78 Smith, Wyalta Oil Co. 1	25
2-33-83 Fargo-Western Oil Co. 1-A	200
32-36-65 Converse, Ohio Oil Co. 2	abd
26-58-98 Rosenberg, Midwest Ref. Co. 1	263
27-51-101 Garner, Cody Pet. Co. 1	dry
8-51-100 Sonners, Ohio Oil Co. 2	150
2-19-104 Cappers, Mountain Fuel Sup. 1	gas
3-26-113 Shrader & Kuhlman 1	180
26-17-104 Murphy, Mountain Fuel Sup. Co. 1	gas
11-29-115 Bushell, California Co. 2	dry
3-26-113 Rainbow Oil Co. 9-A	100
13-46-63 Osage Trust Oil Co. 5	100
15-44-64 Wyoming Drlg. Synd. 1	dry
Wells completed	19
Production	5480
Gas	53,000,000
Dry and abandoned	7

MONTANA

WELLS COMPLETED

20-35-2 Jarrett, Olsen-Johnson 2	dry
20-35-2 Jarrett, Olsen-Johnson 1	50
16-33-1 State, Sunburst O. & R. 1	gas
23-33-3 Schestak, Aloe Big 5 O. & G. 2	gas
19-35-1 Kalispel-Kevin, Arcus Prod. 10	5
23-35-3 Goedertz, B. A. S. Aronow 2	gas
11-34-1 Peterson, Bistate Oil Co. 4	20
31-35-1 Allen, Big West Oil Co. 32	5
13-34-2 Moeton, A. H. Campbell 7	gas
17-24-1 Peterson, Cosmos Pet., Inc., 3.	gas
28-35-1 Levnick, Deloraine Synd. 9	10
29-35-1 Anderson, Ferdig Oil Co. 23	25
20-35-2 Jarrett, "56" Pet. Corp. 8	dry
21-35-2 McManus, L. W. Hill 3	gas
21-35-2 McManus, L. W. Hill 9	dry
19-35-1 Kalispel-Kevin, Larsem & White 4	25
32-35-1 Putnam, Minnemont G. & O. 1	dry
27-35-1 Kaston, Munger Synd. 3	10
3-35-2 Baker, Ohio Oil Co. 17	dry
15-35-2 Emmert, Ohio Oil Co. 10	135
36-35-2 State, Texas Pacific C. & O. 2	10
21-35-1 Pederson, International Holding Co. 1	dry
16-27-4 State, Kevin Corp. 5	50
11-21-3 Betts, L. B. O'Neil	dry
15-29-1 Menil, Butte Oil Synd. 1	dry
31-26-3 Wolfer, Texas Prod. Co. 1	dry
6-25-1 Bailey, Prod. Indep. Oil Co. 3	4
27-27-3 Snortland, Midwest Ref. Co. 1	dry
7-34-1 Harte, Radigan-Hungerford 12	dry
Completions	28
Production	344
Dry	11
Gas	6

NEW MEXICO

WELLS COMPLETED

25-11-26 State, Rodgers et al 1	abd
28-20-27 Stewart, R. D. Compton et al 1	dry
15-20-27 Seale, Mesa Oil Co. 1	abd
24-17-29 Keely, Grayburg Oil Co. 2	300
21-17-32 Baish, Maljamar O. & G. Co. 2	160
21-23-36 State, Texas & Pacific O. & G 2	256
15-22-34 Merchant, Reynolds et al 1	dry
24-21-36 Mattern, Gypsy Oil Co. 1	gas
24-26-36 McCallister, Continental Oil 1	60
34-13-8e State, Southwestern-Tolarosa Oil 1	abd
Wells completed	10
Production	776
Gas	4,000,000
Dry and abandoned	5

COLORADO

WELLS COMPLETED

16-23-52 State, Bent Co. O. & G. Co. 1	abd
11-19-70 Vezetti, Continental Oil Co. 5	dry
2-19-70 McIntyre, Continental Oil Co. 1	dry
1-30-60 Van Vleet, Helium Co. 1	gas
27-50-10 Colo. Uncompahgre O. & G. Co. 1	dry
4- 7-86 B. & C., Midwest Refining Co. 1	dry
Wells completed	6
Gas	1
Dry and abandoned	5

ILLINOIS FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Clark	1	8	0	0	0	2	2
Crawford	6	62	1	0	1	7	8
Lawrence	3	23	0	0	0	3	3
Wabash	2	0	2	0	0	4	4
Clinton	1	0	1	0	0	1	1
Jasper	1	0	1	0	0	0	0
Effingham	0	0	0	0	0	1	1
Randolph	0	0	0	0	0	1	1
Monroe	0	0	0	0	0	1	1
Saline	0	0	0	0	0	4	4
St. Clair	13	621	3	0	0	26	26
Total Nov.	27	714	8	0	1	50	51
Total Oct.	57	1,948	8	1	3	43	46
Difference.	30	1,229	0	1	2	7	5

WELLS COMPLETED

CLARK COUNTY

Casey—Rolla Montgomery, Stohr Bros. 10	8

CRAWFORD COUNTY

Robinson—J. and H. Cortelyou, Warner-Caldwell O. & G. 6	5
Prairie—J. P. Evans, J. F. Bolinger 1.	25
A. E. Joseph, C. C. Watson 8	5
Clara Lamb, The Ohio Oil 2	25
William Akeman, The Ohio Oil 2	2
Martin—M. E. Thomas, The Ohio Oil 11	dry
Wells completed	6
Production	62
Dry	1

LAWRENCE COUNTY

Dennison—J. F. Snyder, Associated Prod. 21	2
Petty—Clint Thorn, The Ohio Oil 16	13
Amos Goff, Craig & Lowrie 1	abd
Bridgeport—C. L. Lawson, The Ohio Oil 2	abd
J. M. Buchanan, Big Four O. & G. 25	8
Wells completed	3
Production	23
Abandoned	2

WABASH COUNTY

Wabash—C. Payne, Foreman & Miller 1 dry
Collison hrs., J. S. Young, Jr., & Co. 9 dry

Wells completed 2
Dry 2

CLINTON COUNTY

East Fork—R. F. McAdams, C. M. Root Oil 1 ..... dry

JASPER COUNTY

Hunt City—Grover McCleve, Kraft & McCullough 1 ..... dry

MONROE COUNTY

Columbia—Christ Gersheimer, The Ohio Oil 1, 3 ..... abd
H. Kolmer, The Ohio Oil 1, 2, 3, 4, 5, 6, 7, 8 ..... abd
Antone Gaertner, The Ohio Oil 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 ..... abd
R. Frederick, The Ohio Oil 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 .....?..... abd

Abandoned 31

ST. CLAIR COUNTY

Sugar Loaf—Phil Frye, The Ohio Oil 3 25
G. L. Tarlton, The Ohio Oil 4 75
Matilda Dyroff, The Ohio Oil 20 125
Matilda Dyroff, The Ohio Oil 21 150
Hall-Weihl, The Ohio Oil 4 150
H. Monsette, Ellis & Thomas 4 25
Hamill, Ellis & Thomas 1 2
Pauline Eckert, Lon Sanders & Co. 2 50
Odd Fellows Lot, C. C. Bundy, trustee 1 17
Henry Dixon lot, Robinson & Co. 1 .. 2
L. J. Jarvis lot, Kolb & Co. 1 ..... dry
Tim Arnold lot, Donaway & Co. 1 .. dry
William Eckert, Duncan Bros. 1 .... dry
William Smallenberger lot, H. & M. operating 1 ..... abd

Wells completed 13
Production 621
Dry 3
Abandoned 1

INDIANA FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Adams	2	25	0	0	0	1	1
Gibson	6	0	3	3	1	4	5
Pike	6	203	0	0	0	4	4
Daviess	2	0	1	1	1	2	3
Clay	0	0	0	0	0	1	1
Vigo	1	15	0	0	0	4	4
Sullivan	4	2	3	0	1	0	1
Spencer	4	0	4	0	0	3	3
Perry	2	15	1	0	0	3	3
Warrick	0	0	0	0	0	2	2
Benton	0	0	0	0	0	1	1
Fountain	0	0	0	0	0	1	1
Greene	0	0	0	0	0	2	2
Crawford	0	0	0	0	0	1	1
Harrison	1	0	1	0	0	0	0
Posey	0	0	0	0	1	1	2
Lagrange	0	0	0	0	0	1	1
Martin	2	0	2	0	0	0	0
Johnson	0	0	0	0	0	1	1
Putnam	0	0	0	0	0	1	1
Morgan	0	0	0	0	0	1	1
Madison	0	0	0	0	0	1	1
Marshall	0	0	0	0	1	1	2
Shelby	2	0	0	2	0	0	0
Monroe	0	0	0	0	0	2	2
Pulaski	0	0	0	0	0	2	2
Lake	0	0	0	0	0	1	1
Henry	2	0	0	2	0	0	0
Total Nov..	34	260	15	8	5	41	46
Total Oct..	22	243	10	1	3	41	44
Difference.	12	17	5	7	2	0	2

WELLS COMPLETED
ADAMS COUNTY

Jefferson—Otto Baker, Geo. S. Lacknett 2 15
John Teeter, O'Neill Bros. 2 10
D. C. Boze, August C. Ford, receiver, 2 abd

Wells completed 2
Production 25
Abandoned 1

GIBSON COUNTY

Barton—Tom Flenner, Mann & Huber 1 dry
Eliza M. Harper, United Oil Corp. 2. dry
Center—Wm. Volkman, Texana Oil 2 ... gas
Columbia—Geo. Allen, Roxana Pet. 2 .. gas
Washington—Wesley Ice, Texana Oil 1. dry
Chas. White, Big Four Oil & Gas 1.. gas

Wells completed 6
Dry 3
Gas 3

PIKE COUNTY

Clay—Berkley-Hill, Wm. Bell & Co. 1.. 35
Bessie Miller, Ilapava Oil 1 25
Mary McAtee, Chas. C. Taliaferro, Jr., 1 40
W. H. Lindy, F. B. Hillis, trustee, 2. 75
W. H. Shawhan, A. B. Bement 3 18
Della Kime, Chas. C. Taliaferro, Jr., 4 10
Monroe—T. J. Hurt, Frank Roberts 1 .. abd
Madison—M. F. Snyder, Ohio Oil 3, 5 .. abd

Wells completed 6
Production 193
Abandoned 3

DAVIESS COUNTY

Veale—National City Bank, Reicher & Co. 1 ..... dry
Reeve—Frank McCord, Bert White 1 .. gas

Wells completed 2
Dry 1
Gas 1

VIGO COUNTY

Prairie Creek—W. C. Piety, Ohio Oil 1.. 15

DELAWARE COUNTY

Liberty—G. S. Jones, C. F. Chapman 1 abd

SPENCER COUNTY

Huff—G. A. Grass, Big Six Oil 1 ..... dry
A. C. Huff, Ben Robinson 1, 2 ..... dry
Edwin Schreefer, Eastern Gulf Oil 1. dry

Wells completed 4
Dry 4

SULLIVAN COUNTY

Hamilton—Alex Raley, Harry Knox & Co. 5 2
Gill—Morris Unger, Dome Oil 1 ..... dry
Morris Unger, Fred Bays 2 ..... dry
G. W. Buff, Buff & Seitz 2 ..... dry

Wells completed 4
Production 2
Dry 3

JAY COUNTY

Jackson—Morris Weiler, V. V. Ford 1.. abd

WABASH COUNTY

Noble—M. J. Barnett 14, Max Ziegler Bros. 1, 2, 3 ..... abd
M. J. Barnett 100-A, Max Ziegler Bros. 1, 2 ..... abd
A. J. Barnett No. 3, Max Ziegler Bros. 1, 2 ..... abd

Abandoned 7

PERRY COUNTY

Anderson—A. Lucke, McClurkin & Co. 1 dry
Near Troy—Daugherty & Heck 1 15

Wells completed 2
Production 15
Dry 1

HARRISON COUNTY

Boone—J. Zimmerman, Southern Indiana Utilities 1 ..... dry

MARTIN COUNTY

Center—Harry Gibson, Foreman & Miller 1 ..... dry
Perry—J. F. Larkin, Berry & Steinhart 1 ..... dry

Wells completed 2
Dry 2

SHELBY COUNTY

Morristown—Morristown Gas Co. 1, 2 .. gas

Wells completed 2
Gas 2

HENRY COUNTY

Wayne—Knightstown, Knightstown Nat. Gas 1, 2 ..... gas

Wells completed 2
Gas 2

MICHIGAN FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Muskegon	14	1,005	6	0	6	20	26
Isabella	9	2,848	0	0	25	46	71
Midland	3	240	1	0	5	14	19
Kent	1	0	1	0	2	2	4
Ottawa	2	0	2	0	0	2	2
Oceana	0	0	0	0	1	7	8
Mason	0	0	0	0	1	2	3
Newyago	1	0	1	0	0	10	10
Manistee	0	0	0	0	0	2	2
Van Buren	1	0	1	0	0	1	1
Montcalm	0	0	0	0	0	2	2
Alpena	0	0	0	0	1	1	2
Tuscola	0	0	0	0	0	1	1
Cass	0	0	0	0	3	2	5
Clare	0	0	0	0	2	3	5
Lake	0	0	0	0	0	4	4
Mecosta	1	0	1	0	0	0	0
Saginaw	0	0	0	0	0	1	1
Emmett	0	0	0	0	0	1	1
Delta	0	0	0	0	0	1	1
Kalkaska	0	0	0	0	1	1	2
Montmorency	0	0	0	0	0	1	1
Barren	0	0	0	0	0	2	2
Branch	0	0	0	0	0	1	1
Ingham	0	0	0	0	0	1	1
Gratiot	0	0	0	0	0	5	5
Iosco	0	0	0	0	1	0	1
Monroe	0	0	0	0	0	2	1	3
Missaukee	0	0	0	0	1	0	1
Eaton	0	0	0	0	0	1	1
Jackson	0	0	0	0	1	0	1
Allegan	0	0	0	0	1	2	3
Kalamazoo	0	0	0	0	0	1	1
Presque Isle	0	0	0	0	1	0	1
Huron	0	0	0	0	1	0	1
Sanilac	0	0	0	0	1	0	1
Total Nov..	32	4,093	13	0	56	138	194
Total Oct..	45	7,065	8	5	59	123	182
Difference.	13	2,972	5	5	3	15	12

WELLS COMPLETED
MUSKEGON COUNTY

Muskegon—Torrent estate, Muskegon Oil Corp. 4 100
Louis P. Haight, Lima Oil Corp. 5 .. 200
Charles I. Giles, A. S. Cochran 1 ... 30
J. B. Nichols, Michago Oil Dev. 1 ... 100
Gimmino, Peerless Oil 1 ..... dry
Albert Heinz, Reed Oil 6 100
Dornbush, Paragon Oil 2 125
Jacob Koning, Henley Oil 3 ..... dry
Jacob Koning, Henley Oil 4 50
August Heinm, Wolverine-Mesiroff 1 dry
Laketon—G. VanLoo, Buckeye O. & G. 3 300
William Lauenstein, G. H. Schrack 1 dry
Sullivan—F. J. Johnson, Johnson-Martson Co. 1 ..... dry
Foot, Herman Hanson Oil Synd. 1 .. dry

Wells completed 14
Production 1005
Dry 6

ISABELLA COUNTY

Chippewa—J. Fox, The Pure Oil 4 550
J. Fox, The Pure Oil 5 625
G. F. Wilcox, The Pure Oil 1 15
W. D. Gibson, The Pure Oil 2 40
W. D. Gibson, The Pure Oil 3 350
Harris, Rockford Oil Synd. 2 100
Thompson-Bortz, Mt. Pleasant O. & G. 2 15
J. Coon, Stork Oil 4 1003
McClintic, Leonard O. & G. 5 150

Wells completed 9
Production 2348

KENT COUNTY

Ada—John Bullis, Dillon & Frederick 1 dry

MIDLAND COUNTY

Greendale—Reems, The Pure Oil C-2 .. 200
James Peak, The Pure Oil 1 40
Geneva—McClintic-Hood, J. O. Sprackling 1 ..... dry

Wells completed 3
Production 240
Dry 1

OTTAWA COUNTY

Olive—J. W. Tedler, Dixie Oil 1 ..... dry
Grand Haven—Paul Sako, Royal R. Miller 1 ..... dry

Wells completed 2
Dry 2

NEWAYGO COUNTY

Sherman—A. J. Bayes, Newaygo O. & G. 1 ..... dry

VAN BUREN COUNTY

Covert—Unknown, Bi-County F. & G. 1 dry

MECOSTA COUNTY

Morton—Frank Truman, Benedum-Trees 1 ..... dry

LIMA FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wood	3	20	0	0	0	5	5
Hancock	5	115	1	0	1	8	9
Allen	2	85	0	0	1	2	3
Auglaize	1	5	0	0	1	3	4
Sandusky	2	50	0	0	0	2	2
Van Wert	1	12	0	0	0	0	0
Seneca	7	175	4	2	1	6	7
Lucas	0	0	0	0	0	2	2
Shelby	0	0	0	0	0	1	1
Wyandot	0	0	0	0	1	0	1
Crawford	0	0	0	0	0	1	1
Logan	0	0	0	0	0	1	1
Huron	0	0	0	0	0	2	2
Total Nov.	21	462	5	2	5	33	38
Total Oct.	23	292	0	3	2	36	38
Difference	2	170	1	1	3	3	0

WELLS COMPLETED
WOOD COUNTY

Freedom—H. G. Foos, Home Banking 5 10
Bloom—Geo. Richards, Mack Smith 1 . 5
Montgomery—Barbara McSorley, Onsel Bros. 1, 2, 3, 4, 5, 6 ..... abd
Edwin R. Sage, Noonemaker & Co. 2, 3, 4 ..... abd
A. Emerine, Ohio Oil 1, 3, 4 ..... abd
Plain—Homer C. Brown, Peninsula Oil 2 ..... abd
Liberty—Thos. Carr, Ohio Oil 4 ..... abd
John Johnson, Ohio Oil 1, 19, 29 ... abd
S. H. Powell, Ohio Oil 23 ..... abd
Geo. and Royal Mercer, Ohio Oil 14. abd
Wm. T. Reese, Ohio Oil 6 ..... abd
F. W. Stratton, C. V. Darrow 1 ..... abd
Perry—J. W. Patton, D. T. Earlton 1 .. abd
Lake—Simon Achenberger, Lindy Airway Oil 3 5

Wells completed 3
Production 20
Abandoned 22

HANCOCK COUNTY

Liberty—John Shank, L. Cramer 4 30
Eagle—J. H. Haley, B. Porter & Co. 30 25
M. H. Deeds, J. M. Steen & Co. 30 ... 25
Alice Stauffer, Star & Clark 16 35
Biglick—Leroy Wonder, Ridge Gas & Oil Synd. 3 ..... dry

Wells completed 5
Production 115
Dry 1

ALLEN COUNTY

Bath—C. A. Hoover, C. A. and F. J. Peavey 2 50
W. A. Carroll, B. L. Cameron & Co. 2 35
Marion—Jas. Ford, M. P. Colt 9 ..... abd
J. A. Good, M. P. Colt 9 ..... abd
Amanda—C. B. Harris, M. J. Lynch & Co. 5, 6, 7, 8, 9, 10, 11, 12, 13 ..... abd

Wells completed 2
Production 85
Abandoned 11

AUGLAIZE COUNTY

Washington—Ben Wierwillie, Real Oil 4 5
Geo. Haberkamp, Star Oil 1, 2 ..... abd
Wm. Bierbaum, New Knoxville Gas 1 abd
Douchouquet—Chas. J. Freck, B. & W. Oil & Gas 1 ..... abd

Wells completed 1
Production 5
Abandoned 4

SANDUSKY COUNTY

Washington—Edith Fought, Gibsonburg Oil 5 35
A. E. Waggoner, W. C. Richards & Co. 9 15
Madison—Chas. H. Paul, Paul Oil 1 ... abd
Etta Smith, Smith & Roselle 1 ..... abd

Wells completed 2
Production 50
Abandoned 2

VAN WERT COUNTY

York—Margaret Hiller, John Elias 5 ... 12

SENECA COUNTY

Liberty—Homer Martin, W. S. Poyser & Co. 2 ..... gas
Frank Beck, H. Coyle 1 ..... dry
Clinton—Ellen Crum, J. H. Murphy & Sons 1 ..... gas
Pleasants—W. W. Martin, Moore Oil 1. dry
C. E. Dennis, C. L. Messer & Co. 1 .. dry
Hopewell—J. D. Watson, Ash & O'Neil 1 175
Frank Feasel, Frank Willis 1 ..... dry

Wells completed 7
Production 175
Dry 4
Gas 2

LUCAS COUNTY

Oregon—Gertrude J. Niles, Fred Keiter 1 ..... abd

CENTRAL OHIO FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Ashland	16	5	8	7	5	15	20
Medina	8	8	4	2	0	6	6
Lorain	9	24	1	7	2	6	9
Wayne	10	0	4	6	0	9	9
Holmes	6	175	1	1	7	8	15
Cuyahoga	0	0	0	0	0	1	1
Ashtabula	0	0	0	0	0	1	1
Richland	1	0	0	1	1	4	5
Knox	10	0	2	8	6	8	14
Coshocton	4	92	0	1	0	5	5
Summitt	11	0	2	9	3	22	25
Licking	15	352	0	3	7	16	23
Muskingum	10	571	1	5	8	19	27
Athens	10	4	3	5	6	17	23
Meigs	15	42	2	5	3	17	20
Jackson	5	0	3	2	3	8	11
Vinton	3	15	1	0	2	2	4
Lawrence	0	0	0	0	0	2	2
Tuscarawas	0	0	0	0	1	5	6
Stark	0	0	0	0	1	5	6
Portage	1	0	1	0	0	1	1
Fairfield	1	0	0	1	0	2	3
Guernsey	6	203	1	2	4	11	15
Belmont	1	0	0	1	1	5	6
Gallia	1	0	0	1	0	1	1
Pike	1	0	1	0	0	1	1
Harrison	1	0	1	0	0	1	1
Total Nov.	145	1,491	36	67	60	198	258
Total Oct.	122	1,386	32	46	70	194	264
Difference	23	105	4	21	10	4	6

WELLS COMPLETED
ASHLAND COUNTY

Greene—Anna Dalton, Ohio Fuel Gas, 1-4,832 ..... gas
Orange—Esther M. Irvin, Ohio Fuel Gas, 2-4,877 ..... gas
George Reeve, Ohio Fuel Gas Co., 1-4,830 ..... gas
Walter Lewis, Ohio Fuel Gas, 2-4,861 gas
Hiram Ewing, Ohio Fuel Gas, 1-4,854 dry
Ben Evil, The Kemrow Co. 3..... gas
Lake—Harry Horn, Golden Crown Oil & Gas 2 ..... dry
George Horn, Edmonds & Co. 2..... dry
Milton—John Herschler, Fetter & Co. 1 dry
Mohican—C. W. Garst, The Kemrow Co. 3 5
Montgomery—Alva Shriner, Ohio Fuel Gas 1-4,804 ..... gas
J. R. & L. Brown, The Kemrow Co. 1 ..... dry
C. L. Arnholt, The Kemrow Co. 1 .. dry
C. W. Hiner, The Kemrow Co. 2 .... gas
Perry—Sam Starcher, Garn-Woodward Oil 1 ..... dry
Sullivan—Mrs. E. J. Cummings, The Kemrow Co. 1 ..... dry

Wells completed 16
Production 5
Dry 8
Gas 7

MEDINA COUNTY

Lafayette—Atlas J. House, Ohio Euel Gas 1-4,833 ..... gas
Clara M. Jones, Ohio Fuel Gas 1-4859 gas
Homer—Schott Brothers, Harmon & George 1 ..... dry
Hinckley—Sid J. Cady, Ohio Fuel Gas 1-4,834 ..... dry
Chatham—J. & A. Jalensics, East Ohio Pro. & Refg. 10 5
J. & A. Jalenscis, East Ohio Pro. & Refg. 11 ..... dry
Sanford-Watson, Oko Oil & Gas 32.. 3
Westfield—L. Derhammer, Ohio Fuel Gas 1-4,835 ..... dry

Wells completed 8
Production 3
Dry 4
Gas 2

LORAIN COUNTY

Eaton—N. H. Kerriush, Ohio Fuel Gas 1-4,847 24
Wellington—Wm. Bradley, Wm. Bradley 1 ..... gas
Carlisle—Julia Clark, 18, Ohio Fuel Gas 3-4,864 ..... gas
Julia Clark, 13, Ohio Fuel Gas 2-4870 gas
J. C. Palmer, Wiser Oil 3, 4 ..... gas
W. M. Richards, J. W. Cushing 1.... gas
J. C. Palmer, Daugherty Co. 4 ..... dry
Penfield—E. S. Newcomb, E. S. Newcomb 1 ..... gas

Wells completed 9
Production 34
Dry 1
Gas 7

WAYNE COUNTY

Congress—J. H. Wiley, Ohio Fuel Gas 1-4,845 ..... gas
William Swope, Ohio Fuel Gas 2-4,851 dry
John Keim, Barnhart & Co. 2 ..... gas
Chester—C. W. Koffman, Ohio Fuel Gas 1-4,846 ..... gas
Jane Myers, Ohio Fuel Gas 1-4,887.. gas
E. M. Myers, Harmon & George 2.... gas
Charles Mark, Harmon & George 1.. dry
C. P. Buckholtz, Harmon & George 1 gas
Wm. Daugherty, Hall & Co. 1..... dry
Ashley Smyser, Faulkner & Co. 1.... dry

Wells completed 10
Dry 4
Gas 6

HOLMES COUNTY

Hardy—H. & H. Bell, East Ohio Gas 4 100
Phil Collier, The Preston Oil 2-1,365 25
Monroe—S. V. Allison, Lydic Oil & Gas 2 ..... dry
Richland—A. E. Harford, East Ohio Gas 3 ..... gas
C. S. Brown, East Ohio Gas 1..... 48
Ripley—Rose Willard, Homan & Co. 4. 2

Wells completed..... 6
Production 175
Dry 1
Gas 1

RICHLAND COUNTY

Monroe—J. M. Reed, Ohio Fuel Gas 1-4,794 ..... gas

KNOX COUNTY

Brown—W. C. Workman, Ohio Fuel Gas 2-4,770 ..... gas
Rose Pryor, Ohio Fuel Gas 3-4,879... gas
Sally Richert, Ohio Fuel Gas 4-4,802. dry
E. Workman, Upham Gas 3 ..... gas
Jefferson—Justin Durbin, Ohio Fuel Gas 1-3,623 ..... gas
Union—J. & L. Lower, Upham Gas 2.. gas
Avery Yearhouse, The Pure Oil 1 .... dry
Jackson—G. W. Beckley, Ohio Fuel Gas 1 ..... gas
Monroe—James Davis, Upham Gas 1.. gas
Butler—Geo. W. Crise, Upham Gas 2.. gas

Wells completed	10
Dry	2
Gas	8

COSHOCTON COUNTY

Clark—Frank Mullett, Ohio Oil 3 65
Pike—Perry Ashcraft, Hope. Const. & Refg. 2 ..... gas
J. Wolford, Spindler & Co. 5 15
Tuscawaras—G. F. & W. E. Stockum, Bell Bros. 1 12

Wells completed	4
Production	92
Gas	1

SUMMITT COUNTY

Franklin—J. M. Weaver, East Ohio Gas 2 ..... gas
Adam Kepler, East Ohio Gas 1..... gas
Jennie Bolander, East Ohio Gas 1... gas
Chas. Smith, F. A. Brendall & Co. 2 gas
Anna C. Bahney, F. A. Brendall & Co. 1 ..... gas
Grace D. Merwin, F. A. Brendall & Co. 1 ..... dry
Frank S. Lahm, Akron Club Co. 1 .. dry
Greene—F. N. Steiner, East Ohio Gas 1 gas
Frank Selzer, F. A. Brendall & Co. 1 gas
Crouse, G. W. Crouse, 3, 4 ..... gas

Wells completed	11
Dry	2
Gas	9

LICKING COUNTY

Fallsburg—Ira T. Rine, Whitehill Oil & Gas 1, 2 ..... gas
John E. Martin, Emerald Petroleum 7 15
Mary Ann—O. W. Dwiggins, G. H. Long 8 2
Perry—Sarah Rector, Hope Const. & Refg. 3 10
Sarah Rector, Hope Const. & Refg. 4 8
Nellie Smith, Settles Oil Co. 4 5
Jacob Lothers, Settles Oil Co. 6 8
John Chaney, Koontz & Schultz 11.. 20
Barnard Warfel, H. C. Farmer 2 ... gas
Franklin—G. E. Cotterman, Bishop, Deetry & Co. 3 4
Licking—John C. Sidle, Heisey Gas 1.. 25
Hanover—H. C. McKnight, Wehrle Gas 1 15
Dan O. Flenner, Everette Gas 2 120
Chas. O. Bannon, Hape Const. & Refg. 4 120

Wells completed	15
Production	352
Gas	3

MUSKINGUM COUNTY

Falls—E. D. Walker, Athey Drilling 1, 2 gas
Highland—A. McConnaghey, H. C. Farmer 1 ..... gas
Jackson—Geo. W. Crawford, The Pure Oil 12 56
Hopewell—J. W. Varner, The Pure Oil 2-1,359 135
Clay—A. W. Wigdon, Crawley & Co. 1 210
Nelson-McCoy Pottery, Crawley & Co. 1 170
Perry—Robt. H. White, Palmer & Geisinger 1 ..... gas
Wilmer A. Daily, Wittmer Properties Trust 1 ..... gas
Union—O. O. Evans, The Atha Co. 2.. dry

Wells completed	10
Production	571
Gas	4
Dry	1

ATHENS COUNTY

Ames—Albert Linscott, Ohio Fuel Gas 3-4,857 ..... gas
L. B. Glazier, Ohio Fuel Gas 5-4,860.. gas
Berns—R. H. McKinley, Ohio Fuel Gas 2-4,825 ..... gas
W. A. Clester, Ohio Fuel Gas 2-4,909 gas
Lodi—J. P. Louke, Ohio Fl Gas 1-4,858 gas
Athens—State Hospital, State Oil & Gas 9 3
W. E. Baker, Gross & Freebolt 2.... dry
Cannon—Robt. Smith, Gifford & Glazier 1 ..... dry
Cannon—Robt. Bean, Chas. Fox 9 1
Lee—S. C. Cross, Three Way Oil 2 .... dry

Wells completed	10
Production	4
Dry	3
Gas	5

MEIGS COUNTY

Sutton—W. J. Krider, The Pure Oil 6.. 6
Mary Jividen, Tyree & Co. 7 4
Mary Jividen, Tyree & Co. 9 5
Stanley Holter, Tyree & Co. 2 4
W. R. Lott, Tyree & Co. 4 4
A. E. Carnahan, Tyree & Co. 9 3
Jas. E. Stobart, Tyree & Co. 9 ..... dry
Belle Spencer, Hazlett & Co. 3 10
Mary Davis, The Preston Oil 2-1,361.. 6
Chester—Wesley Genheimer, Frick & Barnaby 8 ..... dry
Bedford—S. & M. Atkinson, Ohio Fuel Gas, 1-4,831 ..... gas
Scipo—H. E. Bradfield, Ohio Fuel Gas 1-4,869 ..... gas
Rutland—Frank Halliday, H. F. Taggert & Co. 3, 4 ..... gas
Thos. Smith, H. F. Taggert & Co. 2 .. gas

Wells completed	15
Production	42
Dry	2
Gas	5

JACKSON COUNTY

Franklin—E. C. Chapman, Ohio Fuel Gas 1-3,512 ..... dry
G. W. Vanfossan, Ohio Fuel Gas 2-4,868 ..... dry
Washington—L. N. P. Poland, Ohio Fuel Gas 7-3-567 ..... gas
Lick—Samuel Sonne, Penn Oil & Gas 2 dry
Coal—W. L. McGhee, Ohio Fuel Gas 1-3,579 ..... gas

Wells completed	5
Dry	3
Gas	2

VINTON COUNTY

Richland—H. & C. Wyatt, Ohio Fuel Gas 2-3,595 ..... dry
Knox—Cameron Clark, Co-operative Oil 4 10
J. W. Stanley, H. C. Farmer 1 5

Wells completed	3
Production	15
Dry	1

PORTAGE COUNTY

Franklin—C. E. Miller, Kline & Co. 1.. dry

FAIRFIELD COUNTY

Pleasants—John Martz, City Natural Gas Works 3 ..... gas

GUERNSEY COUNTY

Wheeling—Isaac Gamblit, Ohio Fuel Gas 1-4,779 ..... dry
C. C. Wilson, Ohio Fuel Gas 1-4,780.. 83
C. & A. Gray, North Salem Oil & Gas 4 60
E. C. Quillan, East Ohio Gas 3 60
Spencer—Chas. D. Kackley, Ohio Fuel Gas 1-4,863 ..... gas
Adams—J. R. McBurney, J. R. McBurney & Co. 2 ..... gas

Wells completed	6
Production	203
Dry	1
Gas	2

BELMONT COUNTY

Somerset—Allen Price, Patterson & Peters 1 ..... gas

GALLIA COUNTY

Addison—W. T. McCullogh, Penn Ohio Gas 1 ..... gas

PIKE COUNTY

Beaver—D. & D. Stewart, A. & P. Oil & Gas 1 ..... dry

HARRISON COUNTY

North—O. E. Currant, The Kemrow Co. 1 ..... dry

SOUTHEAST OHIO
WELLS COMPLETED
MONROE COUNTY

Knowlton heirs, Hope C. & R. Co. 12 .. 2
Holiday heirs, Indian Run O. & G. Co. 3 gas
Claus, Shay & Co. 1 5
Wahl, Denbow & Co. 1 2
Cline, Straight Fork Oil Co. 8 ..... gas
Chrity, Brister O. & G. Co. 21 4
Hagan, W. C. McBride, Inc., 1 1
Reumenschnider, C. W. Paine & Co. 1. dry
Stewart, C. W. Paine & Co. 30 ..... dry

PERRY COUNTY

Clark, Elder & Co. 5 1
Wiggins, Kachelmacher Est. 1 ..... gas
Newberry heirs, Newberry O. & G. Co. 1 5
Maloy, Planet Oil Co. 1 2
Palmer, Hope C. & R. Co. 1 10
Wilson, Ohio Fuel Gas Co. 1 ..... gas
Goff-Delong, Ohio Fuel Gas Co. 1 ..... gas
Brown-Fry, McClay Bros. & Co. 1 150
Nelson, McClay Bros. & Co. 1 215
Ramsbottom, McClay Bros. & Co. 1 ... 120
Ryland, Rosa Oil Co. 1 50
Ryland, Rosa Oil Co. 2 60
Sagle, Rosa Oil Co. 1 75
Wigton, Crowley, Carr & Co. 1 200
McCoy Pottery Co., Crowley, Carr & Co. 1 140
Larzeler, Leonard O. & G. Co. 1 35
Dilts, Leonard O. & G. Co. 1 30
Giles, Leonard O. & G. Co. 1 ..... dry
Longstreth, Wehrle Co. 1 182
Porter, Wehrle Co. 1 110
Stoneburner, Wallsmith & Co. 1 150
Robison, Royanaker O. & G. Co. 1 50

HOCKING COUNTY

Sunday C'k C. Co., Preston Oil Co. 1,350 dry

MUSKINGUM COUNTY

White, Atha Oil Co. 1 ..... gas
Fenny, Midland Oil Co. 5 175
Varner, Preston Oil Co. 1 110
Sidle, Hopewell F. & G. Co. 1 3

GUERNSEY COUNTY

Camblett, Ohio Fuel Gas Co. 1 ..... dry
Wilson, Ohio Fuel Gas Co. 1 30
Quinlan, East Ohio P. & R. Co. 3 50
Gray, Hatrick & Watson 3 50

HOLMES COUNTY

Harford, East Ohio Gas Co. 3 ..... gas
Brown, East Ohio Gas Co. 1 10
Bell, East Ohio Gas Co. 1 40
Collins, Preston Oil Co. 2 10
Miller, R. L. Holman 3 1
Mullet, Ohio Oil Co. 3 10

LICKING COUNTY

Rector, Hope C. & R. Co. 4 10
McKee, Pure Oil Co. 2 180
Martin, Emerald Pet. Co. 7 15
McKnight-Ryan, Wehrle Co. 1 5
Catterman, Patton & Co. 10 5
Dwiggins, G. H. Long 8 2

COSHOCTON COUNTY

Crawford, Pure Oil Co. 12 15
Wolford, Spindler, Donnan & Co. 5 ... 40

KNOX COUNTY

Yearouse, Pure Oil Co. 1 ..... dry

ATHENS COUNTY

Clark, Powers O. & G. Co. 3 3
State Lands, Athens O. & G. Co. 16 ... 3
Stanley, H. C. Farmer 1 5
Nelson Clay Co., Campbell & Berlin 2.. dry
Marquerer, Townsend & Co. 2 ..... dry

NOBLE COUNTY

Dillshay, Hall & Co. 1 ..... dry
McLaughlin, Rich & Co. 11 ..... dry
Dillshay, Hall & Co. 2 ..... dry
Stephens, Metcalf & Co. 1 ..... gas
Shafer, Shafer Farm O. & G. Co. 11 ... 5

MORGAN COUNTY

Harris, W. S. Harris 11 5
Smith, Gofford & Glazer 1 ..... dry
Curtis, Harry J. Smith 8 ..... dry

MEIGS COUNTY

Davis, Preston Oil Co. 2 5
Krider heirs, Pure Oil Co. 6 4
Camden, Tyree & Co. 6 3
Camden, Tyree & Co. 8 2
Lott, Tyree & Co. 4 4
Molter, Tyree & Co. 1 2
Brocalas Chem. Co., W. W. Ohio Pet. Co. 4 2
Spencer, J. M. Hazelett & Co. 2 10
Carnahan, Goddard & Co. 9 2
Stobert, Twenty-Five Assn., Inc., 3.... dry

WASHINGTON COUNTY

Leasure, Turney & Co. 7 1
Ellis, Elxon & Co. 6 ..... dry
Holland, Thornally O. & G. Co. 1 5
Gearhart, Smith & Co. 7 ..... gas
Brown, Burton & Co. 1 ..... dry
Meister-Blair, Meister & Blair 7 ..... dry
Laner, Meister & Co. 11 ..... dry
Decker, H. Cisler 6 1
Ward, Schramm & Co. 13 25
Dye, Cline & Co. 2 2

JEFFERSON COUNTY

Cooper, Grebb, Cable & Co. 1 3
Becker-Highland, Becker Oil Co. 2 25

HARRISON COUNTY

Mercer, Harrisville O. & G. Co. 1 ..... dry
Maxwell, Frank Quinn 11 5

MEDINA COUNTY

Sanford-Watson, Iko O. & G. Co. 31 15
Sanford-Watson, Iko O. & G. Co. 32 2
Sanford-Watson, Iko O. & G. Co. 33 ... 3
Jelerdin, East Ohio P. & R. Co. 9 25
Jelerdin, East Ohio P. & R. Co. 10 ..... dry

Wells completed	97
Production	2527
Dry	19
Gas	9

SOUTHWEST PENNSYLVANIA
WELLS COMPLETED
WASHINGTON COUNTY

Plants, N. G. Co. of W. Va. 3 5
Crothers, Nation Drilling Co. 1 ..... dry
Tannehill, Bishop O. & G. Co. 2 5
Lutton, Tague & Co. 7 15
Burres, McCool & Co. 1 ..... gas
Woods, W. A. Lindsay, trustee, 2 ..... gas
McPeak, Kaufman & Armor 1 ..... dry
Armer, Geo. Armer 1 ..... dry
Welsh Bros., Mason & Co. 1 1
Scott heirs, Cowden O. & G. Co. 1 .... dry
Cross heirs, Clearwater Torpedo Co. 3. dry

ALLEGHENY COUNTY

Kemper, Rodgers & Co. 1 ..... gas
Mowery, Jacob Morria 1 ..... gas
McClintock, Scheid & Carey 1 ..... dry
Cole, Beeler & McEvoy 1 2
Frank, Beeler & McEvoy 1 2
Pefler, M. M. Walley 1 8
Pfaff, David Neely 1 1
Dally, Bell & Gross 1 4
Pittsburgh Coal Co., Lockhart & Co. 1.. 10

BEAVER COUNTY

Ramsey, Ramsey Oil Corp. 15 3
Kennedy, J. B. Abrams 1 1

GREENE COUNTY

Bowers, Carnegie Gas Co. 1 ..... gas
Lantz, Peoples Gas Co. 3 ..... gas
Johnson, Peoples Gas Co. 1 ..... gas
Roberts, Equitable Gas Co. 1 ..... gas
Lewis heirs, Buss & Co. 1 ..... gas

WEST MORELAND COUNTY

Yeager, Phillipa G. & O. Co. 1 ..... gas

Wells completed	28
Production	57
Dry	6
Gas	10

WEST VIRGINIA
WELLS COMPLETED
LEWIS COUNTY

Burkhammer, Bailey & Kraus 1 ..... gas

HARRISON COUNTY

Marsh, Hawthorne & Lancaster 1 2

MONONGALIA COUNTY

Fox, Eddy & Co. 1 ..... gas
Jackson, Mfrs. L. & H. Co. 1 15
Bean, Pgh. & W. Va. G. Co. 2 ..... gas

WETZEL AND TYLER COUNTIES

Williams, Underwood & Co. 1 2
Spencer, Stephens & Collins 1 2
Byard, Mfrs. L. & H. Co. 2 ..... gas
Palmer heirs, Delmar Oil Co. 2 15
Snodgrass, Null & Morehead 1 ..... gas
McDonald heirs, Hundred Gas Co. 1 ... gas
Louchery, Oakland Oil Co. 1 ..... dry

MARSHALL COUNTY

Marks, Denver O. & G. Co. 1 ..... gas

HANCOCK COUNTY

Henon, Lee Fresheater 7 1

RITCHIE COUNTY

Flesher, Hope Gas Co. 1 ..... dry
Eckert, Pine Oil & Gas Co. 1 10
Showalter, Burk O. & G. Co. 7 1
Strusberry Realty Co., Astron Oil Co. 13 gas
McCullough, Coghghil & Day 1 ..... dry
Hiley, Pigott & Co. 3 10
Dotson, J. D. Foley 2 ..... gas
Neely, J. H. Wagner 1 5
Naughton Bros., Roscoe Richards 1 ... 1
Phillips, G. W. Maze 1 2
Wilson, G. W. Jones 2 1
Golden, Hope C. & R. Co. 1 ..... dry
Bickerstaff, A. P. Oil Co. 9 40

GILMER COUNTY

Amos, Lewis & Co. 1 5
Matheny, Carnegie Gas Co. 1 10
Rymer, Hope Gas Co. 5 ..... gas
Lamb, Bennett & Co. 1 ..... gas
Snyder, Carnegie Gas Co. 2 ..... gas
Westfall, McCall Drilling Co. 1 ..... gas

WIRT COUNTY

Vernon-Donoho, W. C. Patterson 34 ... dry

PLEASANTS COUNTY

Singleton, Rice & Co. 1 1
Griffith, White & Co. 1 ..... dry
Outward, S. B. Glenn 9 ..... dry
Kester & Co., Pickens & Co. 4 1

ROANE COUNTY

Stockly, So. P. O. Co. 100 15
Nixon, So. P. O. Co. 12 5
Hunt, V. G. & O. Co. 6 15
Smith, G. L. Cabot 3 30
Enoch heirs, Heck Oil Co. 3 65
Allen, Heck Oil Co. 2 20
H. F. Enoch, Custer Refining Co. 2 75
Harless, O. V. G. Corp. 1 ..... gas

CALHOUN COUNTY

McCay, S. E. Gas Co. 3 ..... gas
Hunt, Hope Gas Co. 1 ..... gas
Hays, Hope Gas Co. 1 ..... gas
Morris & Co., Sycamore O. & G. Co. 2. 10
Hays, F. F. McIntosh 1 ..... gas
Stump heirs, L. P. Nickel 8 ..... gas
Elliott, V. G. & O. Co. 2 10
Baptist Church lot, C. B. Lewis 1 10
Shock, W. H. Bickel 1 ..... gas
Gatrett, So. P. O. Co. 1 50
Kenny, W. H. Bickel 1 ..... gas

CLAY COUNTY

T. L. & C. Co., Davenport & Co. 1 5

KANAWHA COUNTY

S. C. C. Co., U. F. G. Co. 3,896 ..... gas
Block Coal Co., U. F. G. Co 3,965 ..... gas

BOONE COUNTY

Williams Coal Co., Pure Oil Co. 191 ... 10
Williams Coal Co., Pure Oil Co. 245 ... 10
L. H. & P. tract, Pure Oil Co. 37 15
Federal Coal Co., Pure Oil Co. 41 10
Berwind, U. F. G. Co. 3,871 ..... gas
Sunday Creek Co., U. F. G. Co. 3,855 .. gas
Sunday Creek Co., U. F. G. Co. 3,978 ... gas
Sunday Creek Co., U. F. G. Co. 3,980 ... gas
Wise, D. T. McClure 1 5
Emarr, Owens B. & M. Co. 1 ..... gas
Peytonia C. & L. Co., Owens B. & M. Co. 19 ..... gas
Ballard & Co., Owens B. & M. Co. 2 .. gas
Prince, Mountain F. Co. 1 ..... gas

CABELL COUNTY

Gerlach, Harshbarger O. & G. Co. 1 ... gas
Connor & Co., Harshbarger O. & G. Co. 2 ..... gas
Sias, Larner Gas Co. 82 ..... gas
Janey, Larner Gas Co. 83 ..... gas

WAYNE COUNTY

Wilson, W. U. F. G. Co. 13 ..... gas
Wilson, W. U. F. G. Co. 16 ..... gas

MINGO COUNTY

Red Jacket Cons. C. & Co., Red Jacket O. & G. Co. 7 ..... gas
Red Jacket Cons. C. & Co., Red Jacket O. & G. Co. 8 ..... gas

Completed	82
Production	394
Dry	8
Gas	40

EASTERN FIELDS

EASTERN FIELDS
Summary of Wells Completed

Field—	Comp.	Prod.	Dry	Gas
Allegany	60	110	0	0
Bradford	263	419	0	0
Middle Field	1	2	0	0
Venango-Clarion	38	63	2	3
Butler-Armstrong	19	20	4	2
S. W. Pennsylvania	28	57	6	10
West Virginia	82	394	8	40
Southeast Ohio	97	2,527	19	9
Total November	588	3,592	39	64
Total October	632	2,243	42	69
Difference	44	1,349	3	5

Summary of Work Under Way

Field—	Rigs	Drlg.	Ttl.
Allegany	5	27	32
Bradford	46	168	214
Middle Field	0	5	5
Venango-Clarion	0	30	30
Butler-Armstrong	4	13	17
Southwest Pennsylvania	6	32	38
West Virginia	38	123	161
Southeast Ohio	37	110	147
Total November	136	508	644
Total October	150	500	650
Difference	14	8	6

LINE TO LEA COUNTY

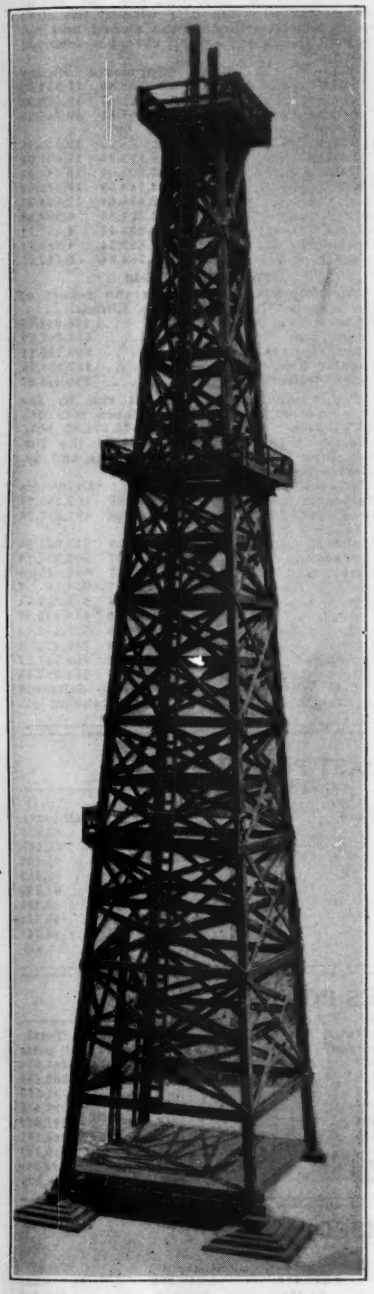
Conflict between Atchison, Topeka & Santa Fe Railway and the Texas & Pacific Railway over the question of construction into the Lea County oil fields of New Mexico, which involved proposals of both railroads to build new lines in the same territory, was decided by the Interstate Commerce Commission in favor of the Texas & Pacific. The commission ruled that the Texas-New Mexico Railway, a subsidiary of the Texas & Pacific, be permitted to construct 70 miles of new line from a connection with its existing line at the Texas-New Mexico boundary to Lovington, N. Mex.

POWER TO REFUSE PERMITS

The solicitor for the Department of the Interior, C. C. Finney, in an answer filed recently to a petition for a writ of mandamus to compel the Secretary of the Interior to issue permits to prospect on the public domain for gas and oil, asserts that the acts of the Secretary in ordering that the issuance of permits be discontinued was within the authority granted by the act of February 25, 1920. The answer denies, besides the fact that the 1920 act is mandatory, that the Secretary in prohibiting further issuance of permits acted arbitrarily, capriciously, and without just cause.

Saving of Wood In Building Derricks Is Shown by Tests

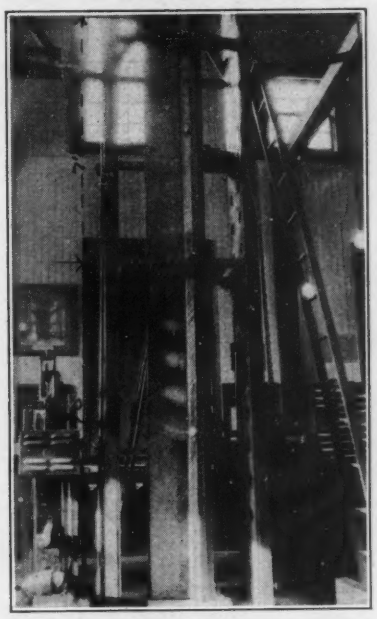
Laboratory tests recently conducted at the University of California and confirmed by tests of similar nature at the Forest Products laboratory, demonstrate that a saving of over 1,000 board feet of lumber can be effected in the construction of the average nailed derrick, without sacrifice of strength or safety. In fact the tests indicated that the safe-load capacity of a reasonably well built wood derrick is greater than any conceivable load which can be brought to bear under ordinary working conditions.



Model derrick built according to new lumber-saving plan.

The object of the tests was to discover the strength of nailed timber derricks under compression such as that caused by a heavy pull on the crown block. Thirty L-shaped wood columns built up of 2-inch plank in 8, 10, and 12-inch widths were constructed. Each was 14 feet high, representing two panels. The sizes and grade of lumber, the workmanship, splicing, nailing and other features were in accordance with good oil field practice. The accompanying photograph illustrates the testing of one of these columns.

It was found that these L-shaped columns, when tested to destruction, tended to fail either through twisting or through direct compression. The tendency to twist increased markedly with the width of the planks, but varied little with different grades of lumber. About the most economical sized leg was discovered to consist of one 2 by 8 and five 2 by 10 planks, of standard No. 1 common dimension, with slope of grain limited to 1 in 10. When wider planks were used the legs failed in twisting before their full compressive strength was developed. The gain in cross sectional area was more than offset by the weakening of the twisting resistance. When selected structural planks were used the same thing happened, evidently because the twisting resistance did not increase, as



Derrick legs undergoing tests.

did the compression resistance, in these better grades of lumber.

As a result it was definitely established that a substantial saving could be effected over the present practice of using one 2 by 10 and five 2 by 12 planks in 122-foot and 136-foot derricks, by using instead legs built up of one 2 by 8 and five 2 by 10 planks. This means a saving of 1,000 board feet of lumber and an assurance of equal or greater strength.

MINING INSTITUTE AT SEATTLE

The annual Mining Institute at the College of Mines of the University of Washington, which is open to all persons interested in any branch of the mineral industry, will be held this winter at Seattle throughout the week beginning January 20. The extensive new equipment for mining, metallurgy, and ceramics recently installed in Mines Laboratory will be used for instruction and demonstrations. In addition to the lectures by the regular staff of the college there will be talks by representative engineers and operators of the Northwest. In the evenings moving pictures of mining operations will be shown.

CANADIAN OIL MAPS

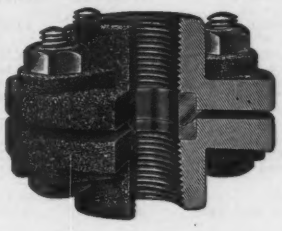
CHATHAM, Ontario, Dec. 14.—Following representations from the Oil and Gas Association of Alberta, the Geological Survey of Canada has announced that accurate maps of oil areas in Alberta will be issued as soon as possible. Maps now being prepared include the Turner Valley, Bragg Creek, Jumping Pound and Wildcat Hills areas; while smaller maps will be included in the survey's summary reports.

TAR SANDS FOR ROADS

CHATHAM, Ontario, Dec. 14.—Alberta Motor Association is urging use of the Athabaska tar sands for providing hard surface on prairie roads.

DART UNIONS AND FLANGES

Two Bronze Seats



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The OIL and GAS JOURNAL

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS
PIPE LINE STATEMENT FOR OCTOBER

Runs

Company—	Month (bbls.)	Dy. av. (bbls.)
Prairie P. L. Co.*	4,650,000	150,000
Gulf P. L. Co.	1,875,230	60,491
Texas P. L. Co.	861,578	27,793
Magnolia P. L. Co.	1,698,958	54,805
Empire P. L. Co.	1,854,339	59,334
Cosden P. L. Co.	858,392	27,690
Sinclair P. L. Co.*	2,914,000	94,000
Oklahoma P. L. Co.	3,787,262	122,170
Other lines*	5,766,000	186,000
Total October	24,266,273	782,783
Total September	25,182,730	839,424
Difference	916,457	56,641

Shipments

Company—	Month (bbls.)	Dy. av. (bbls.)
Prairie P. L. Co.†	6,429,164	207,393
Gulf P. L. Co.	1,954,384	63,045
Texas P. L. Co.	1,428,410	46,078
Magnolia Pet. Co.	2,331,413	75,207
Empire P. L. Co.	1,506,415	48,594
Cosden P. L. Co.	709,979	22,903
Sinclair P. L. Co.†	3,451,089	111,325
Oklahoma P. L. Co.	3,312,149	106,843
Other lines	6,510,000	210,000
Total October	27,633,003	891,388
Total September	27,081,813	902,728
Difference	551,190	11,340

Stocks

	Bbls.
Prairie Oil & Gas Co.	38,028,000
Gulf P. L. and Gypsy Oil Co.	10,171,685
The Texas Company	7,481,970
Magnolia Petroleum Co.	8,718,142
Empire Oil & Refining Co.	5,568,071
Mid-Continent Petroleum Corp.	3,502,252
Sinclair Crude Oil Pur. Co.	20,240,000
Carter Oil Co.	9,445,395
Oklahoma Pipe Line Co.	3,889,442
Other companies	25,998,000
Total October	133,042,778
Total September	134,642,776
Difference	1,599,998

*Estimated. †Prairie and Sinclair shipments include Texas crude oil.

EASTERN PIPE LINE REPORTS

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for September and October:

	Sept., 1929	Oct., 1929
Nat. Transit	294,748.89	404,122.07
S. W. Pa. P. L.	89,643.06	94,485.54
Eureka P. L.	357,703.92	407,367.33
Buckeye P. L. (Macksb'g.)	321,428.56	368,647.98
Buckeye P. L. (Cleve.)	10,770.51	12,971.28
Buckeye P. L. (Lima, etc.)	103,534.37	111,929.62
Indiana P. L.	5,270.40	5,168.79
Cum'land P. L.	188,201.35	197,918.75
N. Y. Transit	30,538.20	32,746.64
Tidewater P. L.	59,187.70	.....
Pure Oil	240,830.38	290,221.77
Paragon Dev.	13,427.85	13,725.53
Stoll Oil Ref.	4,827.82	5,077.57
Bradford Tran.	289,323.57	414,513.56
Total	2,019,446.57	2,358,896.43
Daily average	67,314.88	76,093.43

Note—Indian Refining Co. also reported other receipts of 467,659.27 bbls. Paragon Refining Co. has other receipts of 189,418.26 bbls. Paragon Development had other receipts of 585.74 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky for September and October:

	Sept., 1929	Oct., 1929
Nat. Transit	502,982.89	601,799.57
S. W. Pa. P. L.	354,433.46	332,869.58
Eureka P. L.	230,056.08	228,566.66
Buckeye P. L. (Macksb'g.)	234,242.65	196,645.46
Buckeye P. L. (Cleve.)	2,182.54	2,185.51
Buckeye P. L. (Lima, etc.)	1,632,220.66	1,676,756.01
Indiana P. L.	1,379,905.31	1,425,999.13
Cum'land P. L.	208,727.10	178,996.97
Southern P. L.	92,635.44	64,066.81
N. Y. Transit	279,908.63	292,940.39
Northern P. L.	168,857.71	168,567.97
Tidewater P. L.	211,086.95	280,269.87
Pure Oil	248,151.86	290,992.65
Paragon Ref.	170,090.96	176,750.89
Paragon Dev.	12,326.20	15,869.35
Bradford Tran.	303,652.35	.....
Total	6,036,420.79	5,932,376.81
Daily average	201,214.02	191,366.99

Indian Refining Co. reported other deliveries of 426,148.84 bbls.

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky and Indiana at the close of September and October:

	Sept., 1929	Oct., 1929
Nat. Transit	654,825.92	719,388.96
S. W. Pa. P. L.	556,527.00	498,919.11
Eureka P. L.	1,415,789.95	1,398,117.80
Buckeye P. L. (Macksb'g.)	394,708.80	400,582.44
Buckeye P. L. (Cleve.)	56,858.66	48,885.71
Buckeye P. L. (Lima, etc.)	2,860,912.26	2,783,005.84
Indiana P. L.	575,104.02	747,719.04
Cum'land P. L.	539,326.53	562,259.60
Southern P. L.	387,726.89	339,742.96
N. Y. Transit	167,745.27	142,410.37
Northern P. L.	365,819.17	328,077.84
Tidewater P. L.	955,021.33	909,010.27
Pure Oil	15,318.69	20,118.60
Paragon Ref.	10,799.07	24,162.27
Indian Ref.	141,337.05	182,679.26
Paragon Dev.	6,461.28	4,903.36
Tuscarora	265,097.04	265,678.11
Bradford Trans.	73,688.01	65,438.84
Total	9,443,066.95	9,441,101.38
Increase	2,424.36	
Decrease		1,965.57

Grades of Oil

The following table shows the amount of the different grades of oil held by the Eastern Pipe Lines at the close of September and October showing the gross stocks of the above fields:

	Sept., 1929	Oct., 1929
Penn'a.	3,241,064.05	3,372,038.77
Lima	574,215.23	563,216.33
Kentucky	713,582.53	711,964.81
Mid-Continent	4,519,635.67	4,494,311.77
Illinois	294,569.47	299,569.70
Total	9,443,066.95	9,441,101.38

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1926	1927	1928	1929
January	55,630	56,209	52,904	51,749
February	60,394	61,298	57,002	51,823
March	61,644	63,247	57,485	54,252
April	63,019	60,927	56,812	58,444
May	60,580	60,284	62,067	59,902
June	61,131	62,757	58,230	58,833
July	63,206	58,674	57,144	66,087
August	61,815	60,870	57,745	66,687
September	64,639	60,285	53,487	67,315
October	161,132	147,080	58,100	76,093
November	67,774	57,275	53,565	.....
December	58,755	53,089	52,025	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1926	1927	1928	1929
January	156,056	141,227	146,465	165,721
February	159,488	138,534	167,368	159,387
March	150,239	133,777	158,883	161,474
April	152,374	140,227	172,935	169,737
May	160,998	144,594	180,559	184,281
June	160,267	149,772	188,024	185,404
July	160,045	151,850	189,470	194,763
August	151,929	188,653	192,853	184,946
September	158,915	144,213	194,138	201,214
October	161,132	147,036	176,000	191,367
November	172,608	150,975	176,898	.....
December	136,428	144,504	173,572	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1927	1928	1929
January	9,718,008	12,276,710	7,596,564
February	10,119,162	12,180,419	8,738,835
March	10,794,044	12,239,725	9,002,058
April	11,112,295	11,740,135	8,978,172
May	11,359,281	11,602,468	8,903,560
June	11,493,673	11,287,678	8,921,375
July	11,458,128	10,819,331	9,211,595
August	11,989,115	10,236,742	9,440,643
September	12,212,716	9,660,910	9,443,067
October	12,047,661	9,229,709	9,441,101
November	11,939,740	8,366,552	.....
December	12,340,297	7,539,555	.....

Franklin Pipe Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

	Runs	Shipments	Stocks
1928—			
October	1,289.93	538.89	17,551.93
November	2,663.53	788.47	19,426.99
December	3,053.60	3,167.53	19,426.99
1929—			
January	2,099.90	.....	19,313.06
February	2,469.47	6,873.30	17,009.23
March	3,330.82	3,595.01	16,745.04
April	4,864.07	4,243.59	17,365.52
May	2,688.59	2,455.54	17,598.57
July	2,947.63	3,329.35	4,503.48
August	2,742.73	2,889.47	4,356.74
September	3,925.71	2,897.34	4,385.11
October	3,083.59	1,754.94	5,713.76

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, November 1	2,416,864.80
Runs from wells	593,307.69
Other receipts	360,730.14
Regular deliveries	482,983.75
Other deliveries	346,458.23

The amount of Illinois oil run by the Tide Water Pipe Co. in October was 28,995.14 bbls. Deliveries were 75,574.93 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

	Runs	Deliveries
1928—		
November	576,332.88	702,589.93
December	584,633.00	491,517.26
1929—		
January	570,727.38	545,084.66
February	517,330.17	503,387.70
March	728,319.67	586,049.60
April	515,374.27	654,297.96
May	608,981.60	673,812.83
June	563,454.70	813,845.97
July	611,106.79	828,159.44
August	625,351.99	746,425.08
September	582,457.66	669,947.72
October	622,302.83	558,558.68

Tide Water Pipe Co., Ltd., also delivered in September 268,016.93 bbls. Oklahoma oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

Average bbls per day—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total all ports
February	14,214	.....	38,750	17,250	11,607	81,821	.....	.....	.....	.....	3,750	85,571
March	19,903	948	31,258	18,681	7,355	78,045	.....	.....	.....	.....	.....	78,065
April	16,667	.....	32,333	13,333	2,334	64,467	.....	...	.....	.....	7,333	65,200
May	16,226	2,416	31,226	10,806	2,129	62,903	.....	.....	.....	.....	.....	62,903
June	14,866	3,167	23,100	10,300	6,100	57,533	.....	.....	.....	.....	.....	57,533
July	15,387	4,806	24,290	19,385	2,452	76,323	.....	...	...	...	4,161	30,484
August	20,339	3,129	25,226	15,903	5,548	83,194	.....	....		..	12,161	95,355
September	19,433	.....	31,334	11,900	6,200	69,367	.....	.....	.....	.....	4,800	74,167
October	9,065	4,677	42,065	12,000	9,677	77,484	....	.....	.....	.....	4,097	81,581

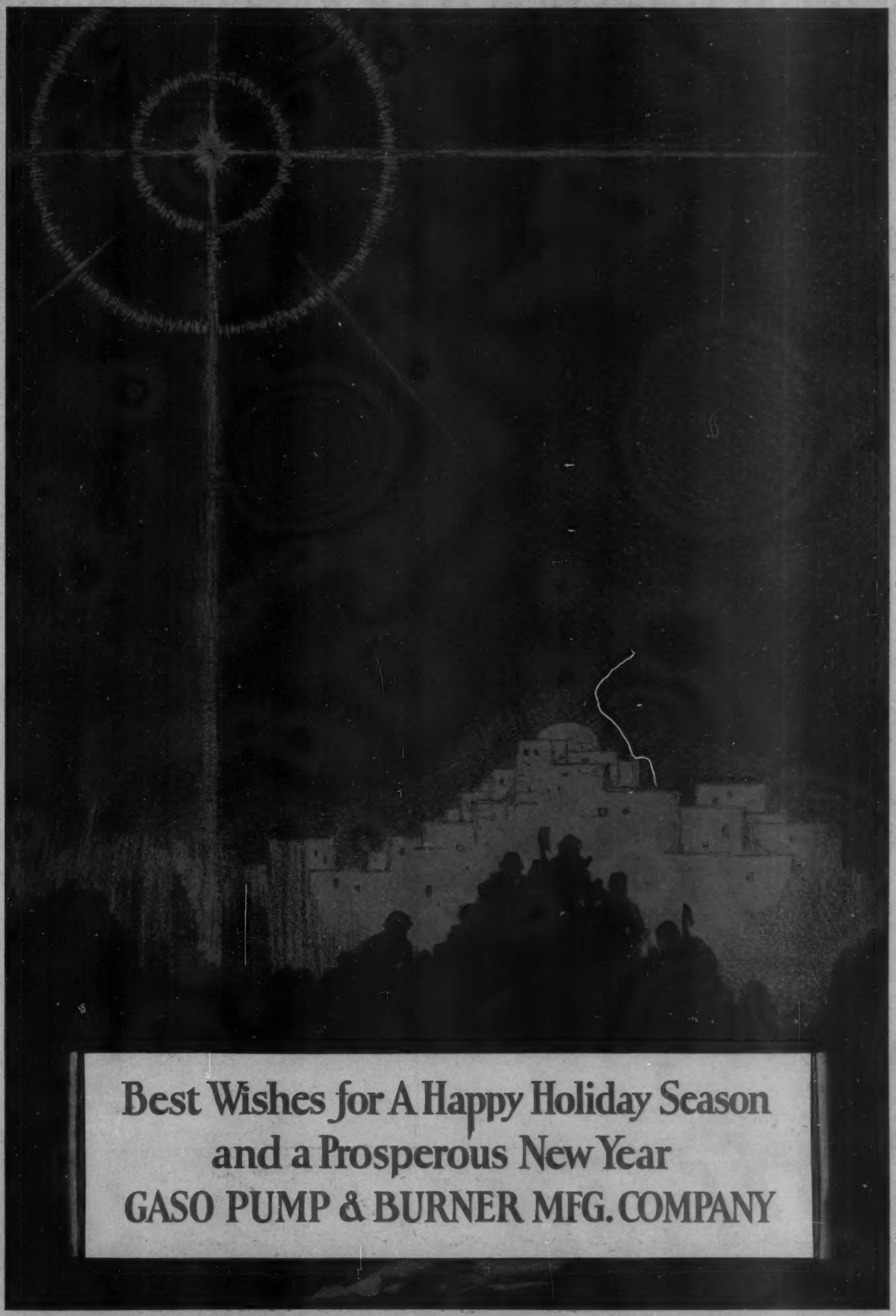
AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls per day—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total all ports
February	13,750	15,071	135,179	32,750	17,893	214,643	.....	34,357	821	143	35,321	249,964
March	18,548	26,064	145,516	39,163	28,162	257,453	.....	42,581	2,323	.....	44,902	302,355
April	19,733	18,267	137,233	50,267	22,567	248,167	6,367	25,066	10,367	1,500	43,300	291,967
May	29,806	19,258	138,000	49,936	22,323	259,323	6,677	26,323	2,000	1,323	37,323	296,645
June	31,433	8,667	134,600	42,967	18,300	235,967	2,600	22,633	11,300	2,033	45,066	281,033
July	40,097	15,129	111,677	43,420	31,516	241,839	4,774	12,097	9,516	161	26,548	268,387
August	33,387	14,355	162,644	30,936	20,355	261,677	4,226	12,742	.....	1,484	18,452	280,129
September	33,967	9,000	136,633	54,300	32,900	265,800	6,900	33,900	5,367	1,333	36,500	302,300
October	39,936	10,519	137,096	38,160	38,644	264,355	6,613	13,388	11,064	4,419	35,484	299,839

GROSS PRODUCTION IN THE UNITED STATES FOR 12 MONTHS (REVISED)

(In Barrels of 42 gallons)

1928-29		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
November:	Month	19,907,536	23,072,580	20,791,795	2,977,300	3,476,080	1,801,914	2,333,370	3,348,000	75,770,665
	Daily average	663,584	735,986	693,059	99,260	82,536	60,064	79,639	111,600	2,525,689
December:	Month	21,574,703	22,425,722	23,180,102	2,983,400	3,521,571	1,846,841	2,289,040	3,581,000	79,407,379
	Daily average	695,958	723,410	715,437	96,400	81,341	59,576	73,840	115,516	2,561,528
January:	Month	23,385,939	22,575,874	23,412,226	2,861,641	3,453,526	1,807,887	2,076,070	3,439,000	82,012,163
	Daily average	754,385	728,254	755,233	92,311	79,146	58,318	66,970	110,936	2,645,554
February:	Month	22,360,707	20,464,164	20,816,209	2,557,968	3,154,194	1,569,930	1,965,656	3,113,000	74,941,228
	Daily average	796,454	730,862	743,434	91,356	76,936	56,068	70,202	111,184	2,676,472
March:	Month	24,224,729	20,833,262	24,358,593	2,951,076	3,303,734	1,756,153	2,195,822	3,536,000	83,314,359
	Daily average	784,669	672,202	785,761	95,196	74,314	56,650	70,838	115,677	2,655,302
April:	Month	23,295,060	20,236,290	23,493,097	3,113,740	3,189,630	1,703,479	2,085,030	3,524,000	79,636,376
	Daily average	776,502	674,513	783,103	103,758	72,956	56,750	69,501	117,467	2,654,546
May:	Month	24,053,351	21,245,453	24,489,101	3,665,099	3,200,158	1,713,261	2,353,522	3,879,000	83,617,945
	Daily average	775,915	685,563	789,965	118,229	71,618	55,267	72,662	125,129	2,697,353
June:	Month	24,624,627	20,561,113	24,698,039	3,636,150	3,113,270	1,699,581	2,180,752	3,887,000	83,399,521
	Daily average	820,821	685,371	823,267	121,205	70,227	56,653	72,692	129,567	2,779,984
July:	Month	26,796,627	23,271,925	26,969,989	3,867,157	3,137,047	1,716,488	2,260,236	4,439,200	99,659,730
	Daily average	864,407	751,675	869,997	124,747	68,937	55,370	76,156	143,200	3,224,489
August:	Month	27,232,253	23,439,492	27,490,489	3,816,555	3,026,082	1,764,973	2,475,016	4,340,000	91,638,961
	Daily average	878,495	723,532	886,787	123,115	67,293	56,934	79,936	140,000	2,956,093
September:	Month	26,104,264	21,402,390	25,987,102	3,780,690	1,959,720	1,718,250	2,346,480	4,200,000	87,498,896
	Daily average	870,142	713,413	866,236	126,023	65,324	57,275	78,284	140,000	2,916,647
October:	Month	26,895,160	20,321,646	26,412,167	3,429,468	2,000,027	1,956,326	2,392,952	4,482,600	88,390,346
	Daily average	867,586	671,666	852,004	110,628	64,517	63,107	77,192	144,600	2,851,300
	Total 12 months	290,496,046	257,550,010	291,098,901	39,644,744	26,613,080	21,054,083	27,012,047	45,818,600	999,287,511

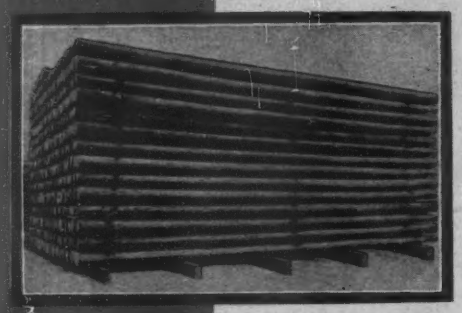


Best Wishes for A Happy Holiday Season
and a Prosperous New Year
GASO PUMP & BURNER MFG. COMPANY

WHY THEY LAST

Poles stacked uniformly on creosoted skids at the Beaumont Plant.

Poles being stacked for seasoning on the specially built seasoning yard at Texarkana.



A stack of International poles produced on order for one company.

MORE than just poles and creosote oil enter *International* cylinders. The timber is absolutely sound and the creosote oil is of the highest grade. Treating operations are carried on by engineers who have made a life study of timber and its treatment. All technical observations such as moisture determinations, creosote analysis and depth of penetration are made by graduate chemical engineers.

International Poles in service 30 years and still strong prove *International* methods.

Before you order poles—compare facts, for there is no substitute for experience.

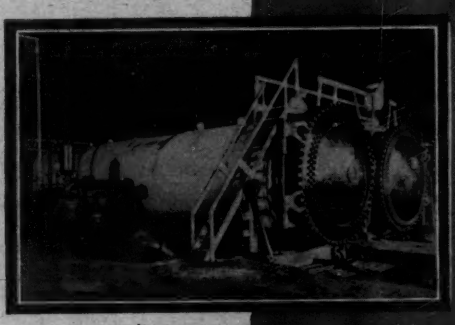
International Creosoting and Construction Co.

General Offices—Galveston, Texas

Plants: Texarkana Beaumont Galveston

Increment boring being taken to check the depth of penetration.

Graduate chemist making test on samples of creosote.



The two largest treating cylinders in the wood preserving industry: located at Texarkana.

International Creosoted Yellow Pine Poles